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1956.

QUEENSLAND.

## ANNUAL REPORT

OF THE

# HEALTH AND MEDICAL SERVICES

OF THE

# STATE OF QUEENSLAND

FOR THE

YEAR 1955-56.

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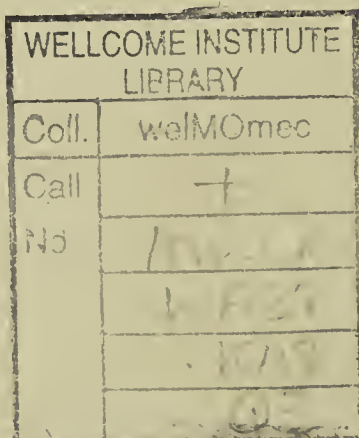
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A. 41—1956.

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# ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES, 1955-56.

The Honourable the Minister for Health and Home Affairs.

SIR,—I have the honour to submit for your information the Annual Report of the Health and Medical Services Branch of the Department of Health and Home Affairs during the year ended 30th June, 1956.

ABRAHAM FRYBERG,  
M.B., B.S. (Melb.), D.P.H., D.T.M. (Syd.),  
Director-General of Health and  
Medical Services.

## STAFF.

Dr. M. J. J. O'Reilly, Deputy Director of the Laboratory of Microbiology and Pathology, has returned to duty following a ten months' tour as a World Health Organisation Travelling Fellow. While abroad he gave particular attention to the pathology of peri-natal deaths and to the cytological diagnosis of cancer of the lung. In both of these fields the knowledge gained by Dr. O'Reilly will be of great benefit to Queensland.

Dr. R. L. Doherty, who is a State Social Service Fellowship holder and was in charge of the Field Station of the Queensland Institute of Medical Research at Innisfail has obtained his M.P.H. at Harvard with First Class Honours. He has been invited to spend a further year doing research work in microbiology (scrub typhus) at Harvard School of Public Health.

Another Fellowship holder, Dr. M. E. J. Brightman, was successful in obtaining the Fellowship of the Royal College of Surgeons of Edinburgh, and is still in the United Kingdom.

Fellowship graduates of 1954 are now at the following hospitals:—Hughenden, Collinsville, Winton, and Bowen. These towns otherwise would be without the services of a doctor.

The shortage of medical practitioners in Australia is causing concern, and it was the subject of discussion at a conference of Health Ministers in January. The Brisbane and Mater Misericordiae Hospitals engage 58 out of a total of approximately 70 students who graduate annually. With the opening of the South Brisbane Hospital, all new graduates will be absorbed by these three hospitals. The present fourth year students number 53, so the position in 1959 will be particularly acute. Ways and means are being explored of attracting doctors to Brisbane.

Dr. C. P. Evans was appointed Assistant Director of Tuberculosis and commenced duty at the Chest Clinic in January, 1956.

## INTRODUCTORY REMARKS.

### *Vital Statistics.*

The population of Queensland continues to increase at a satisfactory rate, the increase for the year being 2.1 per cent. Of this, 1.59 per cent. was due to natural increase. The population of Brisbane continues to increase at a greater rate than in the extra-metropolitan area. In these days of thermo-nuclear weapons, a single hydrogen bomb if dropped in the centre of the city would cause havoc through the whole of the Brisbane area. Every effort should be made to divert industry and population to the country.

The birth rate still remains high, being 24.2 per thousand mean population compared with 23.7 in 1954. In any modern community the birth rate is a good index of economic conditions—it falls during periods of depression, and rises as conditions improve. Families welcome children when they can care for them properly.

The infantile mortality rate declined from 22.6 in 1954 to 20.3 in 1955, and in the metropolitan area from 18.9 to 18.4. From now on, improvement in infantile mortality will be slower. Most of the preventable causes of death in infancy have been attacked with success, but about 73 per cent. of infant deaths last year occurred in the first month of life. Deaths from prematurity are declining at a fairly satisfactory rate, but deaths from birth injury and from haemolytic disease of the newborn show little tendency to fall. The intensive efforts now being made to preserve life in frail babies must be continued in the future.

Accidental deaths in children are still far too frequent, and most of these could have been prevented. Children should not die from traffic accidents, or from drowning or poisoning—and parents and others must always be aware of the need to protect children from these hazards.

## COMMUNICABLE DISEASES.

There were no major outbreaks of infectious disease during the year. Although there was an increase in the number of scarlet fever notifications, this disease remains mild. Notifications of diphtheria declined, but the ten deaths reported are too numerous for complacency. In a properly immunized community there should be fewer deaths from diphtheria, and the need for "booster" doses of diphtheria toxoid is very obvious.



The highlight of the year has been the decision of the Government to offer free immunization to all children against poliomyelitis as soon as supplies of Salk Vaccine become available during the second half of 1956. The vaccine is being manufactured by the Commonwealth Government, and it will be distributed by the States. It has been decided to offer this vaccine through the School Health Services Branch of this Department, and considerable increases in staff have already been made to meet the needs of the coming campaign. Preliminary surveys indicate that more than 90 per cent. of parents desire this vaccine for their children, and this response although extremely gratifying, means that about 400,000 children (aged between six months and fifteen years) will require three doses of Salk Vaccine. The present allocation of Salk Vaccine to Queensland is of the order of 61,000 doses a month, and arrangements are now completed to give this amount to children.

Needless to say, many children will have to wait until next year before they can be given their first doses of Salk Vaccine. However, it is anticipated that about 162,000 children (or 40 per cent. of the child population) will have received two doses of Salk Vaccine by the end of 1956, thereby affording them considerable protection against poliomyelitis. This is the greatest campaign in the prophylaxis of a single disease ever to be undertaken in this State, and when it is successfully concluded there is little doubt that poliomyelitis in children will become a relatively rare disease. It will be a major demonstration of the benefits of prevention.

#### HANSEN'S DISEASE.

The number of white patients has declined from 22 to 21 and of aboriginal patients from 35 to 26. There were 3 admissions and 4 discharges at Peel Island, while at Fantome Island there were 5 admissions and 13 discharges. It is too early yet to say whether or not Hansen's disease is declining in Queensland. Many patients have presented themselves for treatment in recent years because of the knowledge that the sulphone drug treatment will mean only a short isolation period with an arrest of the disease, whereas in the past they would hide away rather than be isolated for long periods. In addition, medical students are taught the diagnosis of the condition and this is also a factor in early presentation of patients. All that can be said at present is that there is no real increase in the incidence of Hansen's disease in Queensland but with the use of the modern drugs rendering patients non-infective, the disease will eventually die out.

Statistics of admissions and discharges at Peel Island since 1916, indicate that the peak population was reached about 1948 just after the introduction of sulphone drugs. In 1948-49 there were 59 patients at Peel Island. Discharges are now being made at twice the rate that was possible before the use of modern drugs. The prospect of cure and of early discharge has had an immense psychological impact on patients with this disease. They are happier and much less resentful than formerly.

#### FOOD AND DRUGS.

It should be noted that there has been a decrease in the number of prosecutions for milk adulteration. This is mainly due to the fact that there has been a substantial increase in the amount of pasteurised milk sold with a corresponding decrease in warm milk. In the metropolitan area 669,674 more gallons of bottled pasteurised milk were sold in the last financial year than in the year 1954-55.

Generally speaking, milk companies who have been granted franchises have a high standard of quality in the milk sold to the public and there is little fear of the milk being adulterated by them. Heat-treated milk is sent long distances and is a safe supply to the people living in Western Queensland.

An increased amount of minced meat sold shows adulteration with preservative and butchers should appreciate the fact that this is an article of diet given to sick people—therefore the meat should be fresh.

#### ENVIRONMENTAL SANITATION.

This is a broad subject and relevant powers to control sanitation and to prevent disease are delegated to the Local Authorities. Some Local Authorities are without the services of a trained health inspector because of a shortage but more students are undertaking the study course for the Royal Society of Health certificate. This should assist in relieving the position. The local health inspector should be known to every householder, but frequently he is seen only when a nuisance is reported. Sanitation starts in and around the home. Household premises should be clean, the refuse bin should be kept in proper order, the sanitary cabinet should be fly-proof, and fly and mosquito breeding should be rigidly controlled. When a householder never sees his inspector he is apt to get careless about these details. Local Authorities should not claim that their sanitary services are adequate unless an inspector is available for regular house to house inspections and follow-ups. It is indeed true that most of the flies that periodically infest our towns and cities breed around the house. Only better hygiene will control their numbers.

During the year, there has been a welcome increase in the number of Local Authorities that are proposing to instal or to extend the sewerage schemes. Although the cost is high, all work receives 50 per cent. subsidy from the Government and this halves the cost. It is therefore rather disappointing to report that some Local Authorities are apparently content to continue to inflict the antiquated pan system on their residents because of the high cost of sewerage. I want to state emphatically that there is no satisfactory or cheap substitute for sewerage. All modern communities must have it, and furthermore, I believe that the average ratepayer is prepared to pay for it. The only alternative is the widespread use of individual septic systems. In the long run this is more



expensive than a sewerage scheme. In addition, septic tanks once installed are apt to be forgotten until an expensive repair job is required. All soils are not suitable for the reception of septic tank effluents and therefore there has recently been a revival of interest in septic units that flush with only a small amount of water. These units have all been investigated, but it is clear that none so far developed is free from serious faults. It is entirely natural that a householder who cannot be connected with sewerage should want one of these units where his soil will not absorb the effluent of the standard septic tank. However, before we can say farewell to the pan system we must have further development in these small flush septic units.

In nightsoil depots there has been observed distinct tendencies to overfill trenches and to rely unduly on insecticides to prevent fly-breeding instead of elementary principles of hygiene.

Under the provisions of "*The Health Acts Amendment Act of 1955*," which came into force in January of this year, the use of white lead in paint is now prohibited and the amount of lead containing pigments in paint has been restricted.

Research work carried out by Dr. D. A. Henderson at the Queensland Institute of Medical Research has confirmed the view that lead used in paint and ingested in childhood is a cause of nephritis in young people. Discussions took place with representatives of the trade and unions. It was accepted that lead was not an essential constituent of house paint and the Health Acts were amended to prohibit the manufacture, sale, and use of white lead and the use of paint containing lead on a house, with the exception that paint containing not more than 5 per cent. lead chromate could be applied to parts of the house inaccessible to children. This should result in a further decrease in the incidence of chronic nephritis in Queensland.

Toys containing lead have almost disappeared from the Queensland market. This will cause the incidence of lead poisoning in children to decline further.

#### DIVISION OF TUBERCULOSIS.

A feature of the year has been the establishment in country districts of centres for control and treatment of tuberculosis. Thoracic Annexes at Cairns and Townsville are both in full use and afford accommodation for 110 patients. During next year a Thoracic Annexe will be opened at Toowoomba, while the construction of an Annexe at Rockhampton will begin. There are now 810 beds available for the exclusive treatment of tuberculosis in Queensland. The completion of the Chest Hospital at Chermside will ensure that in-patient accommodation for patients in this State is adequate for all expected demands.

The Mobile X-ray Unit visited North Queensland during the year, but a serious breakdown of plant hampered its projected activities in North-west Queensland. This year the unit will operate in the Darling Downs area.

Notifications and deaths from tuberculosis still show a fall. Most deaths appear to occur in elderly people who have had the disease in a chronic form for many years.

After a long delay due to a lack of suitable boats it has been possible to commence an X-ray and tubercular survey in the Torres Straits Islands. It is anticipated that the survey can now be pushed ahead if transport can be made available for the Survey Unit.

#### DIVISION OF INDUSTRIAL MEDICINE.

This Division forms a most useful service in supervising conditions of work and in providing impartial advice to employers and employees. Over the years very good relationships have been developed with industry, and it is worth emphasising this achievement because Government Departments are all too apt to be labelled "impersonal" or "uncivil" or "inefficient" regardless of the service they give to the public.

The survey into the cause and effects of industrial accidents has been commenced. In the first phase, this will involve reporting in details on punch-cards from the files of the State Government Insurance Office. Later on a certain amount of field work and on-the-spot investigation will be required to ascertain to what extent some of these accidents are preventable. There is little doubt that greater care on the part of employer and employee and the provision and use of protective equipment could materially reduce the number of accidents, but a good deal of fact finding must precede further efforts in prevention.

There are definite signs already that radioactive substances will soon be more familiar to Queenslanders. Certain isotopes are already being used in industry and the rapid development of the new uranium mining field at Mary Kathleen near Cloncurry has presented this Department with the need to protect all who come in contact with these substances. Advisory services required are costly, but they must be provided in order to ensure these compounds can be handled and used without impairment of health. In addition, it is desirable that this Department develop facilities for measuring radio-activity of all kinds, so that the public can be quickly reassured if some published statement tends to cause alarm.

#### FLUORIDATION OF WATER SUPPLIES.

The possibility of preventing dental caries by adding fluorine to the public water supply has been under consideration by this Department for several years. Most of the previous work on fluoridation of water has been carried out in temperate climates, and it was felt that further investigations should be undertaken in tropical and sub-tropical Queensland to determine the average consumption of water by various age and occupational groups at different times of the year. This has been carried out



by Professor W. B. Macfarlane, of the Department of Physiology, University of Queensland. Professor Macfarlane found that children between 11 and 13 years of age consumed between two and three pints of water in the summer months, and the intake of water can be as high as nine litres (about 17 pints) in men performing heavy work during the hot months. As a result of this work the National Health and Medical Research Council recommended that fluorine should be added to water in concentrations which varied according to the maximum temperature of various regions in Australia. In June, 1956, the Committee on Fluoridation of Water Supplies met and the following resolutions were passed: —

1. This Committee is of the opinion that an optimal intake of fluorine is a factor in the prevention of dental caries. We would point out however that the fluoridation of water is not the total answer to the prevention of dental caries. There are other factors, particularly diet involved in the control of dental caries.

2. The amount of fluorine in water is not usually sufficient to prevent dental caries. Therefore, we recommend that the fluorine level be adjusted to an optimum level. It is appreciated that in some parts of Queensland the amount of fluorine occurring naturally in the water is in excess of the recommended level.

3. We are of the opinion that should a Local Authority desire to add fluorine to its water supply advice should be sought as to the recommended amount.

4. We are of the opinion that if the recommended amount is added there will be no deleterious effects.

5. Any plan to fluoridate the domestic water supply must be subject to the following conditions:—

(a) The need for increasing the concentration of fluorine in the water supply must be established.

(b) The water supply must be amenable and subject to strict supervision and controlled by qualified engineers, chemists or by some other qualified person. Such control should be approved by the Department of Local Government.

(c) The amount of fluorine to be added must be carefully determined and adjusted to meet climatic and environmental changes.

6. The Committee is definitely not in favour of self-medication.

Since 1944 when survey schemes were first set up to assess the value of adding fluorine to public drinking water it has become established quite conclusively that naturally occurring fluorine ingested in drinking water causes a marked reduction in the incidence of dental caries and that with the concentration of between half and one part per million of fluoride in the water this reduction is of the order of 60 per cent. All studies carried out have shown quite clearly that fluoridation is effective in reducing the incidence of dental

caries, and that it is a safe public health procedure. In the next few years it can be anticipated that more and more local authorities will become convinced of the value of adding fluorine to water and will provide this valuable preventive measure to children. It is true that modern diets favour the development of caries but as it is impossible for us to return to suitable foods regular visits to the dentist and the continued ingestion of fluoridated water will undoubtedly make a very significant contribution to better teeth in our children.

#### DIVISION OF SCHOOL HEALTH SERVICES.

Every school is visited once a year and last year more than 67,000 children were examined for physical defects of kinds. Almost 4 per cent. were found to have some physical defect and the great majority of parents had the defects attended to when the condition was brought to their notice. The commonest defects were eye conditions. Defects of eyesight and of hearing are definite handicaps to school children and their correction early in life is important both for educational and psychological reasons. Our School Health Services have a special responsibility towards handicapped children and extend full co-operation to the Department of Public Instruction and to voluntary organisations which help in their education. An Oral School for Deaf Children has recently been established in Brisbane. Children attending this school as well as the various Opportunity Schools are examined for any defects that may be retarding their progress.

The physical examinations of school children are carried out mainly by specially trained nurses.

The more obvious physical defects can be ascertained almost as well by them as by the average doctor. Special tests and special examinations require special skill but they are not available in schools. For instance the cheeks for hearing and eye-sight can not be completely diagnosed or treated unless specialists are available. It can be stated definitely that children with defects as these are constantly being referred for correction to hospitals, clinics, and other special institutions. The detection of every physical defect in school children would require the full time services of specialists which are simply not available. In the meantime I am satisfied that our specially trained nurses are doing a very good job for school children in this State.

Any expansion contemplated would be more in the direction of increased liaison with the Research Guidance Branch of the Department of Public Instruction which provides facilities for teachers who are troubled by a child's failure to learn. It is frequently assumed that this is due to stupidity, laziness or perversity, but it is more likely to be the outcome of some psychological or emotional problem in the child. Although these can include left-handedness, speech disorders, reading disabilities they are often due to the emotional reactions of the child to his surroundings at school or at home. In this field there



are numerous opportunities for the trained public health worker who is interested in children and in the future of the younger generation.

The decision to make Salk Poliomyelitis Vaccine available to children through the School Health Services has involved this Branch in a rapid expansion of staff and in major organisational changes to enable this to be done. In passing special mention must be made of the co-operation extended to the School Health Services by the teaching and medical professions in all parts of the State. With their co-operation this major undertaking will be successfully carried out.

#### DIVISION OF MATERNAL AND CHILD WELFARE.

It is difficult to over-estimate the value of this service in preventing deaths of infants and in ensuring that babies are properly cared for until they reach school age. Maternal and Child Welfare nurses working in 227 centres and sub-centres and in the various institutions for mothers and babies throughout this State have performed a notable task in helping mothers to rear healthy babies. Through the years their work has been an important factor in reducing the infant mortality rate and the wide acceptance of the advice of Maternal and Child Welfare nurses indicates how they have won and justified the confidence of successive generations of mothers. This year thanks must again be given to them for their sterling services to mothers and infants. There can be few occupations that are more satisfying than that of a maternal and child welfare nurse.

I was greatly impressed with the Maternal and Child Welfare centre at Palm Island. This centre is not under the control of the Division of Maternal and Child Welfare but is carrying out the care of the children in the same manner as centres on the mainland. Children are brought to the centre weekly and mothers are taught how to manage them. Should a child not thrive, it is kept at the centre with its mother between 9 a.m. and 5 p.m. and the mother carries out all the child's requirements under the supervision of the Sister-in-charge. Should the Sister-in-charge form the impression that there is no possibility of the mother carrying out her responsibilities, both mother and child are transferred to the dormitory where they are kept until such time as the child is strong.

The work of this centre is to be commended and shows how much the clinic, which opened in 1947, has contributed to the reduction in the infantile mortality rate amongst the natives of Palm Island.

It is interesting to note that 37 children were born on Palm Island in 1943 and 21 died before reaching the age of one year, whilst in 1955 79 children were born, with only 9 deaths.

Another activity of interest at Palm Island is the Home Training and Manual Training Centre. At the Home Training Centre, girls over the age of 14 years obtain experience in looking after a home and in cooking and sewing. They visit the Child Welfare Clinic where they receive training in the care of children. The

food cooked by them is given to the school children over the age of five years to ensure that they receive a properly cooked and balanced meal each day.

The training of the boys at the Manual Training Centre is directed to their usefulness in carpentry and other trade activities, so that they can do maintenance jobs around a house.

The training received by both sexes is such that, when married, the husband and wife should be able not only to keep their house well maintained, but to bring up their children healthy and hygiene-minded.

The officers of the Department of Native Affairs concerned with the Child Welfare Clinic and the Home Training and Manual Training Centres are deserving of the highest commendation for the good work they are doing.

#### LABORATORY OF MICROBIOLOGY AND PATHOLOGY.

Work performed by this laboratory continues to increase, particularly in the sections devoted to haematology, serology, and post-mortem examinations. Until such time as the building of the new laboratory is completed the expansion of activities, such as the establishment of a section for the diagnosis of virus diseases, cannot be implemented. The work carried out on leptospirosis has received world recognition and the staff have been highly commended for their work in unravelling problems in the diagnosis of this disease. Despite the difficulties the standard of work performed remains very high and limited investigations of various kinds continue to be carried out by the competent staff.

#### GOVERNMENT CHEMICAL LABORATORY.

The Government Analyst performs work for various Government Departments (both Commonwealth and State) as well as for the public and additional services will be required of this laboratory in future for the assay of radioactive ores and for the control of radiation. Like the Laboratory of Microbiology and Pathology, the Government Chemical Laboratory urgently requires more accommodation, but this will not be possible until a new building already approved has been constructed.

The services performed by the laboratories are relatively inexpensive to maintain, but they must continue to expand in order to keep pace with the technical advances in medicine and in science—without them this Department would be very seriously handicapped.

#### FUTURE ACTIVITIES OF THE DEPARTMENT.

This year, like all previous years, has been a busy one and definite improvement can be reported in the health of the Queensland population. However, the decline in infectious diseases and the dramatic fall in infant mortality, the great improvements in sanitation and in the quality of food and water have shown the profound effects that modern public health practices can exert on the lives of a modern community. A Health Department,



however, should not consider that its functions are being fully carried out when it continues or confines itself to these traditional activities. Many handicaps to health and to good living still remain, and some of these have become more obvious now that the major preventable diseases have yielded to control. The average citizen to-day expects good health throughout his life if this can possibly be secured for him. Good health means more than the prevention of disease, more than the provision of pure food and safe water. The Preamble to the Constitution of the World Health Organisation states that the enjoyment of the highest obtainable standard of health is one of the fundamental rights of every human being, and this is widely accepted by the peoples of civilised countries. Good health has been defined as a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity. In a perfectly healthy world there would be no disease or infirmity and everyone would die of old-age. Whilst this ideal may never be reached it does set a standard by which countries can measure the value of their own efforts to promote the health and well-being of their peoples.

Knowledge of factors that promote good health or that prevent illness is very considerable, but the application of this knowledge tends to lag almost everywhere in the world. When we review the improved health and increased longevity of people to-day and look back on the conditions that existed a century ago we are justified in feeling a certain amount of pride. It is not so comforting, however, to review the causes of disability and ill-health that still remain to be controlled. Death and disability from accidents must cause concern to the conscience of the nation, for many of them can be prevented.

Mental sickness is another pressing problem. The stresses to which people are subjected in a changing world must be an important factor in the appalling incidence of mental sickness of all kinds. If preventive medicine is to diminish the toll of mental sickness it must learn better how to adjust an individual to his environment or, alternatively, it must try to modify the environment in such a way that a person can live in it in reasonable mental

health. Problem families breed problem children, and a child who is not well integrated into his family or school is apt to develop abnormal reactions when he grows up. More and more the importance of the early years of life to the subsequent development of character is being recognised. Lack of love and security in childhood have been shown to be important contributing factors to later irresponsibility, delinquency, and even crime. Effective methods of preventing mental illness should be a spectacular development of public health in future.

A further problem that awaits solution is pollution of the air. Already our larger cities are covered with a mixture of haze and smog which is known to be deleterious to health. Man is as entitled to pure air as to pure food and water yet it is common to find that any industry with a noxious substance to discharge can discharge it freely into the air we breathe. The increasing amount of radioactive substances discharged into the air is another example. Some day rigid methods to control the pollution of the air must be taken.

These are only a few of the problems that face a Public Health Department if it is to meet its full responsibilities to the people.

VITAL STATISTICS.

*Population.*—The estimated population of Queensland at 31st December, 1955, was 1,350,684, an increase of 27,932 (or 2·1 per cent.) for the year. The estimated population living in the Greater Brisbane area was 519,000, an increase of 14,400 (or 2·9 per cent.) during 1955.

The population density per square mile is 2·01 persons for the whole of Queensland, 1,348 persons in the Greater Brisbane area, and 1·24 persons for the rest of the State, 38·4 per cent. of the population of the State reside in the Metropolitan area.

*Births.*—During 1955 births registered in Queensland totalled 32,352, an increase of 1,176 from the previous year, which was the highest number on record. The crude birth rate was 24·2, compared with 23·7 in 1954. The births comprise 16,701 males and 15,651 females, giving a masculinity rate of 106·7, which is slightly above the normal rate of about 105.

TABLE 1.  
CRUDE BIRTH RATE (PER 1,000 POPULATION).

	1950.	1951.	1952.	1953.	1954.	1955.
Commonwealth of Australia .. .. .	23·3	23·0	23·3	22·9	22·5	22·6
<b>Queensland</b> .. .. .	<b>24·4</b>	<b>24·2</b>	<b>24·6</b>	<b>23·9</b>	<b>23·7</b>	<b>24·2</b>
New South Wales .. .. .	22·4	22·0	22·2	22·1	21·3	21·3
Victoria .. .. .	22·6	22·2	22·9	22·4	22·3	22·3
South Australia .. .. .	24·4	23·8	23·7	23·4	22·9	22·5
Western Australia .. .. .	25·5	25·5	25·7	25·5	24·9	25·2
Tasmania .. .. .	26·0	25·5	26·5	25·3	25·0	25·6
New Zealand .. .. .	24·6	24·4	24·8	24·1	24·7	24·9
United Kingdom .. .. .	16·1	15·9	15·7	15·9	15·6	15·4
United States of America .. .. .	23·4	24·3	24·6	24·7	24·9	24·6
Canada .. .. .	26·5	27·1	27·4	27·9	28·5	28·3

The natural increase (excess of births over deaths) was 21,045, being equal to an increase of 1·6 per cent. of the population.

*Deaths.*—For the year 1955 deaths from all causes totalled 11,307, giving a crude death rate (deaths per 1,000 mean population) of

8·4, compared with 8·6 in the previous year, and still below the crude death rate of the Commonwealth of Australia. Table II. compares the crude death rates of Queensland, other States, and certain overseas countries since 1950.



TABLE II.  
CRUDE DEATH RATE (PER 1,000 POPULATION).

	1950.	1951.	1952.	1953.	1954.	1955.
Commonwealth of Australia .. .. .	9.6	9.7	9.4	9.1	9.1	8.9
<b>Queensland .. .. .</b>	<b>8.7</b>	<b>9.1</b>	<b>8.9</b>	<b>8.5</b>	<b>8.6</b>	<b>8.4</b>
New South Wales .. .. .	9.7	9.7	9.6	9.4	9.5	9.3
Victoria .. .. .	10.1	10.3	10.0	9.5	9.2	8.9
South Australia .. .. .	9.5	9.8	9.3	9.0	9.0	9.2
Western Australia .. .. .	9.1	9.1	8.7	8.2	8.4	8.2
Tasmania .. .. .	8.8	8.9	8.6	8.3	8.7	7.9
New Zealand .. .. .	9.3	9.6	9.3	8.8	9.0	9.0
United Kingdom .. .. .	11.7	12.6	11.4	11.4	11.4	11.7
United States of America .. .. .	9.6	9.7	9.6	9.6	9.2	9.3
Canada .. .. .	9.0	9.0	8.6	8.6	8.1	8.1

The causes of death to residents of Queensland during 1955 are shown in Table III.

TABLE III.  
SHOWING CAUSES OF DEATH OF RESIDENTS OF QUEENSLAND, 1955.

Causes of Death.	Males.	Females.	Total.
Tuberculosis of Respiratory System .. .. .	105	25	130
Tuberculosis, other .. .. .	6	1	7
Diphtheria .. .. .	7	3	10
Whooping Cough .. .. .	..	..	..
Tetanus .. .. .	9	1	10
Acute Poliomyelitis .. .. .	2	3	5
Measles .. .. .	1	1	2
Other Infectious and Parasitic Diseases .. .. .	49	33	82
Malignant Neoplasms .. .. .	913	688	1,601
Neoplasms, Benign and Unspecified .. .. .	24	24	48
Hay Fever and Asthma .. .. .	50	23	73
Diabetes Mellitus .. .. .	46	91	137
Other Allergic, Endocrine System, Metabolic, and Nutritional Diseases .. .. .	18	23	41
Pernicious and other Hyperchromic Anaemias .. .. .	5	16	21
Other Diseases of the Blood and Blood-forming Organs .. .. .	19	21	40
Mental, Psychoneurotic and Personality Disorders .. .. .	62	25	87
Vascular Lesions affecting the Central Nervous System .. .. .	641	763	1,404
Other Diseases of the Nervous System and Sense Organs .. .. .	124	61	185
Diseases of the Heart .. .. .	2,044	1,155	3,199
Hypertensive Disease .. .. .	266	286	552
Other Diseases of the Circulatory System .. .. .	171	125	296
Influenza .. .. .	13	15	28
Lobar Pneumonia .. .. .	55	43	98
Bronchopneumonia .. .. .	64	85	149
Other and Unspecified Pneumonia .. .. .	36	34	70
Bronchitis .. .. .	77	26	103
Other Diseases of Respiratory System .. .. .	131	65	196
Diseases of Stomach and Duodenum .. .. .	86	17	103
Appendicitis .. .. .	20	8	28
Diseases of Liver, Gallbladder, and Pancreas .. .. .	70	62	132
Other Diseases of Digestive System .. .. .	111	95	206
Nephritis and Nephrosis .. .. .	146	125	271
Diseases of Male Genital Organs .. .. .	88	..	88
Other Diseases of Genito-Urinary System .. .. .	63	60	123
Deliveries and Complications of Pregnancy, Childbirth, and Puerperium .. .. .	..	20	20
Diseases of the Skin and Cellular Tissue .. .. .	13	12	25
Diseases of the Bones and Organs of Movement .. .. .	18	22	40
Congenital Malformations .. .. .	93	77	170
Intra-cranial and Spinal Injury at Birth .. .. .	40	26	66
Other Birth Injury .. .. .	28	15	43
Post-Natal Asphyxia and Atelectasis .. .. .	45	21	66
Infections of Newborn .. .. .	14	9	23
Immaturity Unqualified .. .. .	77	60	137
Other Diseases Peculiar to Early Infancy .. .. .	35	28	63
Senility without mention of Psychosis .. .. .	65	71	136
Symptoms Referable to Systems or Organs .. .. .	11	3	14
Ill-defined and Unknown Causes .. .. .	21	12	33
Motor Vehicle Traffic Accidents .. .. .	228	45	273
Accidental Falls .. .. .	83	105	188
Accidental Drowning and Submersion .. .. .	55	5	60
Other Accidents .. .. .	208	50	258
Suicide and Self-Inflicted Injury .. .. .	112	39	151
Homicide and Injury Purposely Inflicted by Other Persons .. .. .	13	3	16
Total from all Causes .. .. .	6,681	4,626	11,307



Although the crude death rate in Queensland is low, it is profitable to review some of the fatal diseases whose incidence might be reduced still further by modern methods of control.

(a) *Degenerative Diseases of the Heart and Blood Vessels.*—Diseases of the heart, hypertension and vascular lesions affecting the central nervous system accounted for 45·6 per cent. of all deaths in 1955. Most of these deaths were due to atherosclerosis—a degenerative disease of the blood vessels, which is commonly seen in old people. If atherosclerosis could be abolished or controlled, there would be a significant and dramatic decline in our death rate.

Until recently it was believed that atherosclerosis was one of the inevitable accompaniments of increasing age, and that its manifestations were irreversible. Nothing, therefore, could be done to prevent or control it. However, increasing understanding and research has indicated that atherosclerosis is a progressive metabolic disease. Several important factors in its causation and its natural history are now known, and already there are indications that in the near future the incidence of this disease can be expected to decline, provided we apply the knowledge which is now available, or which will be gained about this disease before the end of the century.

First of all, it is not a disease of old age. It begins fairly early in life, and many of the victims are middle aged people whom no community can afford to lose. The contemporary diet of the Western World has a high calorie content and a high content of fatty substances—such as fats and cholesterol. In certain American professional groups up to 60 per cent. of the total calories come from fats, whereas primitive peoples have very little fat in the diet. It has now been shown conclusively that the high-fat high-salt diets of modern living alters the metabolism and predisposes to the formation of atherosclerotic “plaques” in blood vessels. These plaques have a very high fat content. Reduction of fats in the diet can thus be expected to reduce atherosclerosis. However, the problem is not simply one of diet. Many facts remain to be uncovered, but the importance of regular exercise is already becoming established. The man who is middle aged, overweight and sedentary is particularly prone to develop atherosclerosis. The high incidence of coronary disease in certain occupations (e.g., business executives, doctors) is now being intensely studied, for it is possible that the mental stresses to which these people are subjected may be a factor. Mental stress, however, is difficult to measure and to assess.

Obviously much further work is required before the public health worker can confidently advocate measures of control, but enough is known already to indicate that degenerative diseases of the blood vessels may some day be much less frequent than they are today.

(b) *Tuberculosis.*—Deaths from tuberculosis continue to decline, and now comprise only about 1 per cent. of all deaths compared to 11 per cent in 1900, 5 per cent. in 1920, and

2·7 per cent in 1940. Few diseases in modern times have shown such a sustained fall. Deaths have declined from 273 in 1951 to 137 in 1955—a reduction of 100 per cent. in five years. Nutrition, housing and treatment have all improved since the turn of the century, but it is impossible to ascribe the reduction in deaths to any or all of these factors. The only valid conclusion is that the white race is at last becoming less susceptible to fatal tuberculosis. In other words, tuberculosis is now a more chronic disease than it was one or two centuries ago.

(c) *Other Infectious Diseases.*—Although only 68 cases of diphtheria were notified in 1955, there were 10 deaths. Deaths from diphtheria show no tendency to decline over the last five years, and this is distinctly disappointing, because modern methods of preventing diphtheria are so effective that there should be no deaths. Most of these deaths occurred because the children concerned were not immunised, or were inadequately immunised in that they had received no “booster” doses of toxoid. With immunisation free to all children there should be no deaths from diphtheria in Queensland.

Tetanus, on the other hand, is responsible for fewer deaths than formerly. In the last four years deaths from tetanus have declined from 26 in 1952 to 10 in 1955, and there is little doubt that wider acceptance of the need for active immunisation against this disease has been responsible. The recent introduction of triple antigen should ensure that nearly every child in this State will have received at least basic immunisation against tetanus.

Although modern treatment of pneumonia is so effective, it is rather surprising to note that 247 deaths were due to lobar and bronchopneumonia in 1955.

(d) *Deaths from Accidents.*—It is difficult to be complacent about the large number of deaths from accidents. Each year they comprise about 7 per cent. of all deaths. (By contrast, deaths from all infectious diseases, including tuberculosis, were only 2 per cent. of all deaths in 1955.)

We are apt to underestimate the importance of accidental deaths. Certainly, when set beside the 5,155 deaths from cardio-vascular diseases and the 1,601 deaths from cancer, the total of 779 deaths from accidental causes in 1955 looks relatively insignificant. But the mere listing of numbers of deaths does not give a true indication of the value of the lives lost from accidents. A better way is by estimating the approximate number of work years lost by each death. A person in good health can expect to work for about fifty years (i.e., from 16 to 65). If he dies at 15, the nation loses 50 work years; if at 40, twenty-five years are lost, and so on. Cardio-vascular diseases and cancer are considered to be the two most important causes of death, but if we compute the number of work years lost by death from various causes, we find that deaths from accidents far outrank those from any other cause. This is because so many young people die from accidents.



Not only are accidents the most important single cause of death in work years lost, but they are responsible for one admission in every seven in Queensland public hospitals. They are, in fact, the most frequent single cause of admission to hospitals.

Prevention depends on knowledge of the causes of accidents, on the ability to control or modify those causes, and on education. A good deal of research work is required before we are able to inform the Queensland public of the causes and control of accidents, but already it is clear that many could be prevented by greater care—care in the home, care on the road, care at work and at play. Until people as a whole realise the devastation caused by accidents, they will not exercise the caution needed to prevent them.

(e) *Deaths from Birth and Childbirth.*—Despite increase in the number of births, the number of deaths due to the hazards of child

bearing and to prematurity and birth injury have shown a satisfying and progressive decline in the last five years. Many factors have been responsible. Improved methods of treatment and better equipment in our hospitals have played an important part.

*Marriages.*—Registration of marriages during the year totalled 10,098, compared with 10,027 in 1954. The marriage rate was 7·5 per thousand mean population, compared with 7·6 in 1954. Marriages of minors during the year totalled 4,463 of whom 806 were males and 3,657 females.

*Infantile Mortality.*—The infantile mortality rate of Queensland, other States and certain overseas countries is shown in Table IV., while Table V. is a composite one showing the birth rates, infantile mortality, and reproduction rates of Queensland compared with the Commonwealth of Australia.

TABLE IV.  
INFANT MORTALITY RATES (DEATHS UNDER ONE YEAR PER 1,000 LIVE BIRTHS).

—							1950.	1951.	1952.	1953.	1954.	1955.
Commonwealth of Australia	..	..	..	..	..	..	24·5	25·2	23·8	23·3	22·5	22·0
Queensland	..	..	..	..	..	..	24·8	25·7	24·9	25·0	22·3	20·3
New South Wales	..	..	..	..	..	..	27·1	26·3	24·5	24·6	25·3	24·9
Victoria	..	..	..	..	..	..	20·1	22·6	22·3	21·2	19·3	18·4
South Australia	..	..	..	..	..	..	24·0	24·5	23·1	20·7	21·3	23·3
Western Australia	..	..	..	..	..	..	27·1	28·7	24·9	23·8	22·5	22·4
Tasmania	..	..	..	..	..	..	23·8	26·6	21·7	22·9	23·9	23·4
New Zealand	..	..	..	..	..	..	23·0	22·8	21·8	20·1	20·0	20·1
United Kingdom	..	..	..	..	..	..	31·4	31·1	28·1	27·5	26·0	26·0
United States of America	..	..	..	..	..	..	29·2	28·4	28·5	27·9	27·0	n
Canada	..	..	..	..	..	..	41·3	38·4	38·0	35·9	35·0	n

n Not available.

TABLE V.  
BIRTH, INFANT MORTALITY, MATERNAL MORTALITY, AND REPRODUCTION RATES, QUEENSLAND AND AUSTRALIA.

—							Crude Birth Rate.		Infant Mortality Rate.		Maternal Mortality Rate. (1)		Gross Reproduction Rate. (2)		Net Reproduction Rate. (3)	
							Queens-land.	Aus-tralia.	Queens-land.	Aus-tralia.	Queens-land.	Aus-tralia.	Queens-land.	Aus-tralia.	Queens-land.	Aus-tralia.
1946	..	..	..	..	..	..	24·8	23·7	29·3	29·0	2·26	1·85	1·55	1·46	1·42	1·33
1947	..	..	..	..	..	..	25·6	24·1	30·8	28·5	1·62	1·87	1·64	1·49	1·54	1·36
1948	..	..	..	..	..	..	24·7	23·1	28·0	27·8	1·47	1·40	1·59	1·45	1·51	1·33
1949	..	..	..	..	..	..	24·0	22·9	24·7	25·3	1·44	1·21	1·56	1·46	1·48	1·33
1950	..	..	..	..	..	..	24·4	23·3	24·8	24·5	1·45	1·09	1·60	1·49	1·52	1·42
1951	..	..	..	..	..	..	24·2	23·0	25·7	25·2	1·18	1·05	1·62	1·49	1·54	1·21
1952	..	..	..	..	..	..	24·6	23·3	24·9	23·8	1·03	0·94	1·67	1·55	1·59	1·47
1953	..	..	..	..	..	..	23·9	22·9	25·0	23·3	0·71	0·62	1·65	1·56	1·57	1·48
1954	..	..	..	..	..	..	23·7	22·5	22·3	22·5	0·96	0·69	1·67	1·56	1·59	1·48
1955	..	..	..	..	..	..	24·2	22·6	20·3	22·0	0·62	n	1·71	n	1·62	n

n Not available.

(1) *Maternal Mortality Rate.*—Deaths from puerperal causes per 1,000 live births.  
(2) *Gross Reproduction Rate.*—Represents the number of female children born on the average to women living right through the child-bearing years if the conditions on which the rate is based continue.  
(3) *Net Reproduction Rate.*—Is the gross reproduction rate corrected for deaths of females from birth to the end of the child-bearing period. It is a more accurate index than the gross reproduction rate. Unless it exceeds unity the population is not replacing itself.

The net reproduction rate is higher than the Australian average, whilst the maternal mortality rate declined from 4·15 in 1901 to 0·62 in 1955.

If the crude death rate had remained at the level prevailing in 1900 almost 4,400 additional deaths would have occurred in Queensland during 1955. In addition, the expectation of life has been increased by 15 years during that period.

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Chief Sanitary Inspector: W. D. PRYOR.

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## SECTION OF COMMUNICABLE DISEASE CONTROL.

Tables VI and VII show the reported incidence of notifiable diseases in the metropolitan and extra-metropolitan areas of Queensland for the fiscal year 1955-56. Comparable information for the calendar year 1955 is shown in Table VIII.

TABLE VI.

COMMUNICABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1955, TO 30TH JUNE, 1956.  
METROPOLITAN AREA (POPULATION AT 1ST JULY, 1955—515,000).

Diseases.	Months.												Total 1955- 1956.
	1955.						1956.						
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	
Anchylostomiasis ..	1	..	..	..	..	1	2	6	..	21	1	..	32
Anthrax .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharziasis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chorea .. ..	..	1	..	..	..	..	..	1	..	..	..	..	2
Coastal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile)	14	19	14	12	23	21	15	21	15	16	2	6	178
Diphtheria .. ..	4	6	4	1	1	..	..	..	..	1	1	2	20
Dysentery, Amoebic..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery, Bacillary	2	7	1	3	14	45	31	51	26	10	14	8	212
Encephalitis Lethar-	..	..	..	..	..	..	..	..	..	..	..	..	..
gica .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erythema Nodosa ..	1	..	..	..	..	..	..	..	..	..	..	..	1
Filariasis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lead Poisoning ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leprosy .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leptospirosis (Weil's	..	..	..	..	..	..	..	..	..	..	..	..	..
Disease, Para-Weil's	..	..	..	..	..	..	..	..	..	..	..	..	..
Disease, Seven-day	..	..	..	..	..	..	..	..	..	..	..	..	..
Fever) .. ..	..	2	..	..	..	1	..	..	2	3	2	..	12
Malaria .. ..	..	..	2	..	1	..	..	..	..	..	..	..	3
Meningitis, Cerebro-	..	..	..	..	..	..	..	..	..	..	..	..	..
spinal .. ..	2	4	2	..	..	..	..	..	1	..	..	..	9
Mossman Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague, Bubonic or	..	..	..	..	..	..	..	..	..	..	..	..	..
Oriental .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plural Effusion ..	..	..	..	..	..	..	..	..	..	1	..	..	1
Poliomyelitis, Acute	..	..	..	..	..	..	..	..	..	..	..	..	..
Anterior .. ..	1	..	1	..	4	2	13	11	8	14	9	2	65
Puerperal Fever ..	..	..	..	2	..	..	..	..	..	..	..	..	2
Puerperal Pyrexia ..	1	1	..	4	1	1	..	..	..	..	..	..	8
Q. Fever .. ..	..	..	..	..	3	1	1	3	..	..	..	..	8
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever ..	10	9	10	6	5	5	10	7	3	9	7	14	95
Rubella .. ..	..	..	1	..	..	..	..	..	..	..	..	..	1
Sarina Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever or	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlatina .. ..	10	54	36	30	36	12	5	7	8	4	4	5	211
Smallpox (including	..	..	..	..	..	..	..	..	..	..	..	..	..
Amaas or Alastrim)	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all	..	..	..	..	..	..	..	..	..	..	..	..	..
forms) .. ..	50	25	27	34	26	26	30	31	19	38	34	27	367
Tetanus .. ..	..	1	3	1	..	1	2	..	1	..	1	1	11
Typhoid Fever (in-	..	..	..	..	..	..	..	..	..	..	..	..	..
cluding Para-	..	..	..	..	..	..	..	..	..	..	..	..	..
typhoid Fevers) ..	..	1	..	..	1	1	..	..	..	..	..	..	3
Typhus Fever—	..	..	..	..	..	..	..	..	..	..	..	..	..
Tick .. ..	..	..	..	..	..	..	..	..	..	1	..	..	1
Murine .. ..	1	..	..	..	..	..	1	1	..	3	2	..	8
Undulant (Malta)	..	..	..	..	..	..	..	..	..	..	..	..	..
Fever .. ..	..	..	..	..	..	..	..	1	..	..	1	..	2
Yellow Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals .. ..	97	130	101	93	115	117	110	140	83	121	78	67	1,252



TABLE VII.

COMMUNICABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1955, TO 30TH JUNE, 1956.  
EXTRA-METROPOLITAN AREA (POPULATION AT 1ST JULY, 1955—829,572).

Diseases.	Months.												Total 1955- 1956
	1955.						1956.						
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	
Anchylostomiasis ..	15	34	1	3	31	29	1	..	10	..	4	19	147
Anthrax .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharziasis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chorea .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile)	7	3	9	5	8	4	2	4	6	4	2	8	62
Diphtheria .. ..	12	6	9	3	3	..	2	..	1	2	2	2	42
Dysentery, Amoebic	1	..	..	..	..	..	..	..	..	..	3	2	6
Dysentery, Bacillary	..	1	3	1	3	4	1	3	4	11	7	11	49
Encephalitis Lethar- gica .. ..	1	1	1	..	..	..	..	..	..	..	..	1	4
Erythema Nodosa ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Filariasis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lead Poisoning ..	..	4	5	4	1	3	4	1	3	1	2	1	29
Leprosy .. ..	..	3	1	..	..	1	..	..	..	..	..	..	5
Leptospirosis (Weil's Disease, Para-Weil's Disease, Seven-day Fever) .. ..	12	46	3	24	18	8	4	7	19	18	35	25	219
Malaria .. ..	..	3	..	..	3	..	..	..	..	..	1	..	7
Meningitis Cerebro- spinal .. ..	6	1	3	3	..	2	..	..	1	..	..	3	20
Mossman Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague, Bubonic or Oriental .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pleural Effusion ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis, Acute Anterior .. ..	2	2	1	..	2	1	3	5	7	15	3	1	42
Puerperal Fever ..	2	2	..	3	5	1	1	..	1	..	3	1	19
Puerperal Pyrexia ..	7	1	1	..	..	1	..	..	2	1	..	..	13
Q. Fever .. ..	2	1	..	..	..	..	1	..	1	1	1	..	7
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever ..	5	6	9	12	12	6	7	13	6	5	5	3	89
Rubella .. ..	..	..	..	1	..	..	1	1	..	..	..	..	3
Sarina Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever or Scarlatina .. ..	76	100	58	53	34	24	8	6	13	11	10	14	407
Smallpox (including Amaas or Alastrim)	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms) .. ..	34	41	38	17	32	25	30	34	25	20	39	29	364
Tetanus .. ..	..	2	1	2	1	..	1	2	3	..	2	..	14
Typhoid Fever (in- cluding Para- typhoid Fevers) ..	2	..	..	..	..	1	..	..	..	1	2	1	7
Typhus Fever— Scrub .. ..	..	..	3	8	..	..	..	..	..	1	1	1	14
Tick .. ..	..	..	..	..	..	..	1	..	1	..	1	..	3
Murine .. ..	4	..	..	1	..	4	3	..	2	1	..	..	15
Undulant (Malta) Fever .. ..	..	..	..	1	..	1	3	..	1	1	1	..	8
Yellow Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals .. ..	188	257	146	141	153	115	73	76	106	93	125	122	1,595

TABLE VIII.

NOTIFIED INCIDENCE OF COMMUNICABLE DISEASES IN QUEENSLAND (EXCLUSIVE OF VENEREAL DISEASES),  
SECTION 29 OF "THE HEALTH ACTS, 1937 TO 1955," DURING THE CALENDAR YEAR 1955.

Diseases.	Cases Reported on Prescribed Form.			
	Metropolis.	Outside Areas.	Total Whole State, 1955.	Total Whole State, 1954.
Anchylostomiasis .. .. .	4	261	265	16
Anthrax .. .. .	..	..	..	..
Bilharziasis .. .. .	..	..	..	..
Coastal Fever .. .. .	..	..	..	..
Cholera .. .. .	..	..	..	..
Chorea .. .. .	1	..	1	..
Diphtheria .. .. .	30	38	68	82
Diarrhoea (Infantile) .. .. .	165	57	222	461
Dysentery, Amoebic .. .. .	1	4	5	1
Dysentery, Bacillary .. .. .	172	34	206	125
Encephalitis Lethargica .. .. .	..	4	4	5
Erythema Nodosa .. .. .	2	..	2	1
Filariasis .. .. .	..	..	..	1
Lead Poisoning .. .. .	..	24	24	27
Leprosy .. .. .	..	6	6	6
Leptospirosis (including Weil's Disease, Para-Weil's Disease, Seven-day Fever) .. .. .	12	179	191	79
Malaria (Infection not attributable to Queensland) .. .. .	12	13	25	25
Meningitis, Cerebro-spinal .. .. .	21	32	53	52
Mossman Fever .. .. .	..	..	..	..
Plague, Bubonic or Oriental .. .. .	..	..	..	..
Pleural Effusion .. .. .	..	..	..	4
Poliomyelitis, Acute Anterior .. .. .	51	129	180	134
Puerperal Fever .. .. .	2	17	19	8
Puerperal Pyrexia .. .. .	10	19	29	18
Q. Fever .. .. .	9	6	15	24
Relapsing Fever .. .. .	..	..	..	..
Rheumatic Fever .. .. .	94	84	178	128
Rubella .. .. .	2	12	14	6
Sarina Fever .. .. .	..	..	..	..
Scarlet Fever or Scarlatina .. .. .	218	498	716	274
Smallpox (including Amaas or Alastrim) .. .. .	..	..	..	..
Tetanus .. .. .	8	17	25	27
Tuberculosis (all forms) .. .. .	350	335	685	717
Typhoid Fever (including Para-typhoid Fevers) .. .. .	5	5	10	8
Typhus Fever .. .. .	..	..	..	34
Scrub .. .. .	..	26	26	..
Tick .. .. .	..	..	..	..
Murine .. .. .	6	23	29	..
Undulant (Malta) Fever .. .. .	..	4	4	5
Yellow Fever .. .. .	..	..	..	..
Totals .. .. .	1,175	1,827	3,002	2,268



POLIOMYELITIS.

For the year 1955-56 notifications of polio myelitis totalled 107 (notifications for the calendar year 1955 were 180). Of these, 64

were males and 43 were females. The age and sex distribution of poliomyelitis for the year 1955-56 and since 1st October, 1950, are set out in Table IX.

TABLE IX.

SHOWING AGE AND SEX DISTRIBUTION OF PATIENTS WITH POLIOMYELITIS FOR YEAR 1955-56, AND SINCE 1ST OCTOBER, 1950. QUEENSLAND.

Age Group.	1955-56.						1st October, 1950 to 30th June, 1956.					
	Persons.			Percentage.			Persons.			Percentage.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
0- 1 years .. ..	1	..	1	1.6	..	0.9	36	20	56	3.5	2.5	3.0
1- 4 years .. ..	4	7	11	6.3	16.3	10.3	180	130	310	17.4	16.3	16.9
5- 9 years .. ..	11	6	17	17.2	14.0	15.9	245	180	425	23.6	22.6	23.1
10-14 years .. ..	19	8	27	29.7	18.6	25.2	168	122	290	16.0	15.3	15.8
15-19 years .. ..	5	6	11	7.8	14.0	10.3	149	96	245	14.4	12.0	13.3
20-24 years .. ..	8	6	14	12.5	14.0	13.1	105	95	200	10.1	11.9	10.9
25-29 years .. ..	8	4	12	12.5	9.3	11.2	67	84	151	6.5	10.5	8.2
30-34 years .. ..	4	3	7	6.2	7.0	6.5	43	41	84	4.0	5.1	4.6
35-39 years .. ..	2	2	4	3.1	4.7	3.7	18	18	36	1.7	2.3	2.0
40-44 years .. ..	2	..	2	3.1	..	1.9	13	3	16	1.3	0.4	0.9
45-49 years .. ..	..	1	1	..	2.3	0.9	11	4	15	1.1	0.5	0.8
50-54 years .. ..	..	..	..	..	..	..	2	3	5	0.2	0.4	0.3
55 years and over .. ..	..	..	..	..	..	..	3	1	4	0.3	0.1	0.2
All Ages .. ..	64	43	107	100.0	100.0	100.0	1,040	798	1,838	100.0	100.0	100.0

Four deaths were reported, all in males aged 7, 11, 14, and 34 years, respectively.

From July, 1955, until January, 1956, only sporadic cases of the disease were reported in Queensland. However, in January, 16 cases were reported and in the following three months there were 60 further cases, falling to 12 in May and 3 in June. Most of these were in the Greater Brisbane area but cases were reported from the Darling Downs, south-east Queensland and as far north as Mackay. North Queensland, however, was practically free of the disease during the year.

The age pattern of poliomyelitis still continues its upward trend and no less than 50 per cent. of accepted cases were over the age of 14 years. Since the outbreak of 1950, 41 per cent of accepted cases have been over 14 years of age. The immunisation of the older age groups is therefore clearly indicated when vaccine production in Australia becomes adequate for this purpose.

The incidence of paralytic and non-paralytic poliomyelitis for the six fiscal years 1950-51 to 1955-56 is shown in Table X.

TABLE X.

SHOWING INCIDENCE OF PARALYTIC AND NON-PARALYTIC POLIOMYELITIS FOR THE FIVE FISCAL YEARS 1951-52 TO 1955-56.

Year.									Paralytic.	Non-Paralytic.	Ratio— Paralytic Non-Paralytic.
1950-51 .. .. .	..	..	..	..	..	..	..	..	675	141	4.8 : 1
1951-52 .. .. .	..	..	..	..	..	..	..	..	307	50	6.1 : 1
1952-53 .. .. .	..	..	..	..	..	..	..	..	211	31	6.8 : 1
1953-54 .. .. .	..	..	..	..	..	..	..	..	52	16	3.2 : 1
1954-55 .. .. .	..	..	..	..	..	..	..	..	196	52	3.8 : 1
1955-56 .. .. .	..	..	..	..	..	..	..	..	61	46	1.3 : 1

In the last few years the number of cases diagnosed as non-paralytic poliomyelitis has shown a definite increase and of the cases notified during the year 1955-56, 46 cases were non-paralytic and 61 paralytic. Whether all of these non-paralytic cases were due to invasion of the central nervous system by poliomyelitis virus is rather doubtful but virus neutralisation tests and attempts to isolate virus from these patients are being performed much more frequently. Until the specific diagnosis of poliomyelitis becomes a routine laboratory procedure we must continue to accept as non-paralytic poliomyelitis diseases due to other viruses.

It could have been anticipated that an outbreak of poliomyelitis might have occurred during the recent summer but this did not eventuate although the number of reported cases increased as indicated above. Since the epidemic of 1950-51 it seems that poliomyelitis has established itself in Queensland at a high endemic level and in non-epidemic years many more cases of the disease are reported than formerly.

The need for an effective vaccine against poliomyelitis has long been appreciated. Countries such as Queensland, with a high standard of living and a reasonably high



standard of hygiene, experience severe epidemics of paralytic poliomyelitis and in recent years the disease has become more and more endemic. The only answer to this is some form of artificial immunisation.

Salk vaccine is now manufactured in Melbourne by the Commonwealth Government. It will be subjected to the same safety tests as those imposed by the United States and Canadian Governments on vaccines produced in those countries. In addition, each batch of vaccine will be tested independently by the Medical Research Unit at the Fairfield Hospital, Melbourne.

As the safety of the vaccine is assured the Government has therefore decided to participate in a nation-wide campaign to eradicate poliomyelitis, by offering free vaccination to children between the ages of 6 months and 14 years. This vaccine is available in the States on a quota basis and the allocation for Queensland will be 61,000 doses per month. The total population in this age group is approximately 400,000.

In view of the large numbers and in view of the extensive system of records required by the Commonwealth Government, it has been decided that vaccinations will be carried out by the School Health Services Division of this Department.

Naturally this is a major undertaking. It will involve the appointment of additional School nurses, and the Government will incur considerable expenditure in carrying out this

ambitious programme. The campaign is expected to commence early in July, 1956, and details of the preliminary planning will be found in the report of the Division of School Health Services in this issue.

By the end of 1956 it is anticipated that more than 160,000 children (over 40 per cent. of the child population) will have received two doses of Salk vaccine. It should be possible to give every child two doses of vaccine by about October, 1957. Until that is done and every child has a considerable degree of immunity against paralytic poliomyelitis, no arrangements will be made for the giving of the third or "booster" dose of vaccine.

When this ambitious programme is completed there is little doubt that paralytic poliomyelitis should become a rare disease amongst the children of this State. Consideration will then have to be given to the vaccination of persons over the age of 14 years who at present comprise 40 per cent of the notified cases. Deaths in the older age groups become progressively more frequent. At the moment, however, it is not expected that vaccine will be available for the older age groups except for pregnant women.

DIPHTHERIA.

The downward trend of notifications continues. Notified cases have declined from 112 in 1952-53 to 55 in the present fiscal year.

The age and sex distribution of notified cases for the last five years is set out in Table XI.

TABLE XI.  
SHOWING AGE AND SEX DISTRIBUTION OF NOTIFIED CASES OF DIPHTHERIA, 1951-56.

Age Group.	Males.					Females.					Persons.	
	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.	Total.	Percentage of Total.
0- 1 year ..	3	1	3	3	2	1	6	2	1	..	22	3.5
1- 4 years ..	31	31	27	8	7	27	22	15	2	5	175	28.2
5- 9 years ..	29	34	30	20	7	25	48	22	12	8	235	37.8
10-14 years ..	4	9	3	1	3	6	7	8	1	3	45	7.2
15-19 years ..	..	3	2	1	..	6	6	1	2	4	25	4.0
20-29 years ..	5	12	3	..	2	8	8	6	2	5	51	8.2
30-39 years ..	..	5	..	1	4	10	11	10	3	4	48	7.7
40-49 years ..	1	2	..	1	..	2	2	3	1	..	12	1.9
50 and over ..	..	1	..	1	..	1	3	..	1	1	8	1.3
All Ages ..	73	98	68	36	25	86	113	67	25	30	621	100.0

Almost 70 per cent. of all notified cases are children less than 10 years of age, and this proportion has shown no appreciable change in recent years. It is interesting to record, however, that 30 per cent. of notified cases in females are over the age of 15 years. The majority of these would be mothers. While it can not be said that there is a definite trend to the upper age groups, it is possible that waning immunity and lack of opportunities for sub-clinical infection render many of our adult population susceptible to infection with diphtheria. If the organism were prevalent, there is little doubt that many more adult cases would be occurring. However, the organism seems to be disappearing gradually from the community.

Thirty-eight (38) per cent. of notified cases occurred in children in the 5-9 year age group and most of these cases could have been prevented if the child had had a booster dose of diphtheria toxoid on entering school. It is disappointing to have to report that of children attending school for the first time in 1955 only 42 per cent. had received diphtheria boosters in the Greater Brisbane area and only 24 per cent. in the country. If diphtheria is to be banished it is essential that every child be given a booster injection before starting school or during the first school year. If this were done on a universal scale diphtheria notifications would rapidly decline in this State, and there would be fewer deaths than the ten reported in 1955.



TETANUS.

Twenty-two cases were notified during the year. Age and sex distribution of notified cases of tetanus since 1952-53 are shown in Table XII.

TABLE XII.

AGE AND SEX DISTRIBUTION OF NOTIFIED CASES OF TETANUS FOR THE FOUR YEARS 1952-53 TO 1955-56.

Age Group.	Males.				Females.				Persons.	
	1952-53.	1953-54.	1954-55.	1955-56.	1952-53.	1953-54.	1954-55.	1955-56.	No.	Per-centage.
0- 1 year .. ..	..	..	1	..	1	..	1	..	3	2.8
1- 4 years .. ..	2	2	3	2	2	1	1	1	14	12.8
5- 9 years .. ..	4	6	2	6	3	..	1	2	24	22.0
10-14 years .. ..	2	5	3	3	1	..	..	..	14	12.8
15-19 years .. ..	3	5	2	..	1	1	1	..	13	11.9
20-29 years .. ..	4	2	1	4	1	..	1	..	13	11.9
30-39 years .. ..	..	1	..	1	1	2	1	..	6	5.5
40-49 years .. ..	1	2	..	..	..	..	..	..	3	2.8
50-59 years .. ..	2	1	..	1	..	1	..	..	5	4.6
60 years and over ..	5	1	3	2	..	2	1	..	14	12.8
All Ages .. ..	23	25	15	19	10	7	7	3	109	100.0

As yet there can be detected no significant decline in this disease as although notified cases have fallen in the last two years the numbers are too small to detect a trend. However, a decline in numbers of notified cases can be expected over the next few years. Of children commencing school in 1955, 48 per cent. had received basic immunisation against tetanus, an increase of 10 per cent. over 1954. Triple antigen became widely used in this State only two or three years ago, and as children reach school age from 1958 onwards, the majority should have been immunised against tetanus and will be protected. There will still remain, however, a large school population which is not protected. Parents are, therefore, urged to have their older children immunised: most Local Authorities offer it free of cost. The knowledge that a child is protected against this killing disease must ease many parental minds—because injuries in children are so frequent.

LEAD POISONING.

In the last two years there has been a sharp increase in the number of cases of lead poisoning. Of these, 18 were children living in the

Emu Park-Yeppoon area, where there recently has been marked public awareness of lead paint. Most of the children were diagnosed by blood test (stippled cells). Other cases in children were reported from Townsville and Woorabinda. The remainder were employees exposed to lead at work.

SCARLET FEVER.

Notifications totalled 716 in 1955 compared with 274 during the previous year. The disease, as usual, was very mild and complications were uncommon. The last upsurge of scarlet fever occurred in 1950. While scarlet fever retains its present relatively trivial nature there is little reason to fear it, but history has shown that this disease has waxed and waned in the last century or so, and it is to be expected that a virulent phase will occur again. Although modern antibiotic therapy will render it a much less fearsome disease than in the past, all cases of the disease should continue to be notified.



HANSEN'S DISEASE

(1) HANSEN'S DISEASE IN THE WHITE POPULATION.

PEEL ISLAND.

Medical Superintendent: M. H. GABRIEL, M.B., B.S. (Qld.), A.A.C.I.

TABLE XIII.  
STATISTICS FOR THE YEAR 1955-56.

—	Males.	Females.	Total.
Population at 1st July, 1955	16	6	22*
Admissions during year ..	2	1	3
Discharges during year ..	2	2	4
Deaths .. .. .	Nil	Nil	Nil
Population at 30th June, 1956 .. .. .	16	5	21*

\* These totals include two patients (one male and one female) who have been granted special permission to remain in the institution, though eligible for discharge.

Three patients were admitted during the year, one being a female and two being males. There were no re-admissions. All three patients showed moderately advanced signs of Hansen's Disease and this fact suggests that there are still a few cases not being detected in the early stages. It is hoped that, with the education of medical students in the diagnosis of Hansen's Disease, this condition will be remembered in the differential diagnosis of obscure dermatological and neurological cases.

Of the discharged patients two were females and two were males.

*For the Period 1st July, 1916, to 30th June, 1956.*

Sulphone drugs have been in use at Peel Island for ten years so that a review of the results obtained in that time with sulphone and thiosemicarbazone drugs can now be made with a considerable volume of statistical data.

Table XIV. is a summary of the statistics for Peel Island for the period 1st July, 1916, to 30th June, 1956—that is for a period of thirty years prior to and ten years subsequent to the introduction of sulphone drugs. In 1951 the thiosemicarbazone drugs were added to the specific drugs being used at Peel Island and some of the credit for the results since that time must go to these compounds.

The data has been set out in periods from the 1st July each year to the 30th June of the following year to correspond with the periods covered by the annual reports. It is considered that the data presented here would be very difficult to obtain from any other source and it will therefore prove of considerable interest. The compilation of the data presented has entailed a fairly lengthy period of research among the records at Peel Island and every effort has been made to keep it completely accurate.

TABLE XIV.  
SHOWING STATISTICS OF WHITE PATIENTS AT PEEL ISLAND 1916-17 TO 1955-56.

Year.	New Admissions.	Re-Admissions.	Discharges.	Deaths.	Other Losses.	Total Population at 30th June.	Discharges as Percentage of Population at 1st July.
1916 .. ..	..	..	..	..	..	19	..
1916-17 .. ..	4	..	..	4	1*	18	0
1917-18 .. ..	6	..	2	1	..	21	11.1
1918-19 .. ..	5	..	..	2	1*	23	0
1919-20 .. ..	3	..	1	1	..	24	4.3
1920-21 .. ..	6	1	..	..	..	31	0
1921-22 .. ..	5	1	..	..	..	37	0
1922-23 .. ..	3	3	5	..	..	38	13.5
1923-24 .. ..	5	3	2	1	..	43	5.3
1924-25 .. ..	8	..	2	1	..	48	4.4
1925-26 .. ..	7	..	7	3	..	45	18.5
1926-27 .. ..	2	1	6	1	..	41	13.5
1927-28 .. ..	7	1	5	1	..	43	12.0
1928-29 .. ..	3	1	10	3	..	34	23.2
1929-30 .. ..	3	2	3	1	..	35	8.8
1930-31 .. ..	9	1	7	4	..	34	20.0
1931-32 .. ..	4	2	6	1	..	33	17.6
1932-33 .. ..	..	2	3	1	..	31	9.1
1933-34 .. ..	5	..	3	2	..	31	9.7
1934-35 .. ..	3	..	4	4	1†	25	12.9
1935-36 .. ..	4	..	5	2	..	22	20.0
1936-37 .. ..	13	3	7	3	..	28	31.8
1937-38 .. ..	3	3	3	8	..	23	10.7
1938-39 .. ..	7	5	3	4	..	28	13.0
1939-40 .. ..	6	4	5	4	..	29	17.8
1940-41 .. ..	6	1	3	1	..	32	10.3
1941-42 .. ..	5	2	6	3	..	30	18.7
1942-43 .. ..	5	5	2	1	..	37	6.7

\* Absconded.      † Transferred to New South Wales.



TABLE XIV.—continued.

SHOWING STATISTICS OF WHITE PATIENTS AT PEEL ISLAND, 1916-17 1955-56—continued.

Year.	New Admissions.	Re-Admissions.	Discharges.	Deaths.	Other Losses.	Total Population at 30th June.	Discharges as Percentage of Population at 1st July.
1943-44 .. ..	15	2	4	3	1*	46	10·8
1944-45 .. ..	5	6	4	3	..	50	11·5
1945-46 .. ..	4	2	6	4	..	46	12·0
1946-47 .. ..	9	5	4	1	..	55	8·7
1947-48 .. ..	4	4	8	3	..	52	14·5
1948-49 .. ..	5	8	2	4	..	59	3·8
1949-50 .. ..	1	2	4	4	..	54	6·8
1950-51 .. ..	4	1	13	1	..	45	24·1
1951-52 .. ..	6	1	5	4	..	43	11·1
1952-53 .. ..	1	..	21	..	..	23†	48·8
1953-54 .. ..	9	2	7	3	..	24§	31·8
1954-55 .. ..	6	1	8	1	..	22§	36·4
1955-56 .. ..	3	..	4	..	..	21§	20·0

\* Absconded.

‡ Includes one voluntary patient not counted in calculations.

† Transferred to New South Wales.

§ Includes two voluntary patients not counted in calculations.

TABLE XV.

SHOWING STATISTICS AT PEEL ISLAND BEFORE AND AFTER INTRODUCTION OF SULPHONE DRUGS.

Period Considered.	1-7-1916 to 30-6-46.	1-7-46 to 30-6-56.
	Persons per annum.	Persons per annum.
New admission rate .. ..	5·4	4·8
Re-admission rate .. ..	1·7	2·4
Total admission rate .. ..	7·1	7·2
Discharge rate .. ..	3·8	7·6
Death rate .. ..	2·3	2·1
Total loss (discharges and deaths)	6·1	9·7
Increase in population .. ..	1·0	..
Decrease in population .. ..	..	2·5
Average discharge rate over the period .. ..	11·6 per cent.	20·6 per cent.

A study of the statistics will show that the total admission rate has remained relatively constant over the whole of the 40 years covered by this survey. The fact that the re-admission rate has been higher in the last 10 years is easily accounted for. When former patients heard of the efficiency of sulphone drugs, all of those who had been avoiding re-admission came forward for treatment, the numbers reaching a peak of eight re-admissions in 1948-49, but dropping away markedly since then. Only two re-admitted patients in the last ten years had had any treatment with sulphones in prior admissions, and in one of these cases only a short period of sulphone treatment had been administered before discharge and the patient had not taken maintenance treatment after discharge.

The death rate amongst patients has been relatively constant over the period studied, so that the population trends shown in the analysis are valid. It is striking to see a population increasing by one person per year prior to the introduction of sulphone drugs change to a population decreasing by 2·5 persons per year since their introduction.

The discharge rates expressed as a percentage of population at 1st July in each year are also striking and the rates of 11·6 per cent. before sulphones and 20·6 per cent. after sulphones speak for themselves. If it is remembered that sulphone drugs, have, at this institution at any rate, taken an average of three years to arrest Hansen's disease, and if, therefore, only the past seven years are considered, it will be found that the average discharge rate expressed as a percentage is 25·6 per cent., which is very significantly different from the figure of 11·6 per cent. for the period before the use of sulphone drugs.

It would appear then, from a study of the discharge rates, that the sulphone and thiosemi-carbazone drugs now in use are at least twice as effective as any drugs previously used. However, the discharge rate does not tell the whole story since the re-admission rate is also an important factor. In the past seven years—that is, after the flood of re-admissions following the introduction of sulphone drugs had ceased—that rate has fallen to one person per year as against 1·7 persons per year prior to the introduction of sulphone drugs.



In the foreseeable future re-admissions should become uncommon and only new admissions will be a significant factor in determining the population of Peel Island Hospital.

*Medical Treatment.*—No changes have been made in the medical treatment of patients during the year. Dapsone (a sulphone drug) and thiacetazone (a thiosemicarbazone drug) are still the two principal specific drugs in use, and they are still proving very effective. The fact that there were only four discharges during the year does not indicate a falling-off in the efficiency of the drugs. Only five of the patients in the institution have been under treatment for longer than four years and of these, two have been unco-operative in the regular taking of treatment, one is old and debilitated and cannot take adequate amounts of treatment, and two have shown very poor response to all of the drugs used; nevertheless all of these patients are making some progress under treatment. Every patient who has been under treatment for less than four years is making normal progress.

*Occupational Therapy.*—Again this year valuable assistance has been given by the Handcraft section of the Red Cross Society in providing materials and instructions for handcraft work by the patients. A steady interest has been maintained in this work so that hands and muscles have been kept working and minds have been kept occupied with beneficial effect.

Other patients are employed as poultry farmers, barber, painter, truck driver, groundsman, &c., as a form of occupational therapy. No able-bodied patient need be idle since there is interesting and profitable work for all who are willing.

*Medical Visits.*—As part of a fellowship in Public Health Administration training Dr. Guzman Suva of the Philippine Islands Health Service visited Peel Island in February, 1956.

Three parties of medical students (18 in all) visited Peel Island for clinical demonstrations of Hansen's Disease.

The Australian Student Nurses' Association held its annual conference in Brisbane in October, 1955, and twenty-five of the delegates paid a visit to Peel Island.

Remote cases were demonstrated and later still films were shown.

All agreed that they had had a very interesting, instructive, and enjoyable visit.

*Dental Unit.*—A dentist from the Brisbane Dental Hospital made twelve (12) visits during the year to complete work begun in the previous year. This is a reflection on the large amount of dental work required by recently admitted patients.

*Patients Sent to the Brisbane General Hospital for Specialist Treatment.*—Patients requiring specialist treatment are transferred to Wattlebrae Infectious Diseases Hospital. A total of nine patients were accommodated during the year and of these one (1) patient made two visits and one (1) patient made five visits.

*Laboratory of Microbiology and Pathology.*—The following examinations were performed by the Departmental laboratory:—

	Specimens.
Venous blood for full blood examination	219
Tissue smears (for <i>M. leprae</i> ) .. ..	248
Venous blood for serological tests ..	4
Venous blood for ABO and Rh grouping	2
Venous blood for blood sugar estimations	2
Urine for chemical and microscopical tests	214
Urine for culture and sensitivity tests	1
Total ..	690

*Staff and Administration.*—The staff remained the same in numbers and categories during the year but there continues to be a big turnover of the nursing staff—a circumstance which is by no means peculiar to this institution.

*Buildings.*—A considerable amount of progress has been made with repairs, renovations, painting, and new building works at Peel Island.

*Roads.*—The torrential rains in the early months of 1956 did a great deal of damage to the roads on the island and it became necessary to employ two labourers for a month to assist the permanent staff to get the roads back into trafficable condition.

*Jetties.*—The old jetty has been further damaged by the heavy rains and heavy seas during the year and its approaches have been still further silted up.

Only a few weeks work remains to complete the new jetty on the western side of the island. This new jetty has been used a great deal and was especially valuable when the road to the old jetty was quite impassable.

*Launch Service.*—The launch service carried out under contract continues to be most satisfactory.

*Patients.*—Of the twenty patients (this figure excludes the two voluntary patients) in the institution on 1st July, 1955, four (or 20 per cent.) were discharged. This continuing high rate of discharge has been responsible for the maintenance of a cheerful outlook amongst most of the patients.

*Patients' Visitors.*—Every Monday and Friday and alternate Sundays are still regarded as the official visiting days but a considerable number of visitors are arriving on Wednesdays and Saturdays. The number of visitors remains high but is well within the capacity of the transport available. Regular visits were made by the clergy of the various denominations. Members of the Toowong Sub-Branch of the R.S.S.A.I.L.A. conducted an Anzac Day Service again this year and no fewer than ten concert parties entertained patients with Sunday concerts.

*Patients' Amenities.*—The amenities provided for patients remain at the same high level as in previous years. During the year the player-piano and the billiards table were both completely overhauled. Both of these are a source of much entertainment to the patients. A special note of appreciation must be recorded here to the Queensland Braille Writing Association. A blind patient who has retained full sensitivity in the finger tips was desirous of learning braille. Miss Bird, Hon. Secretary of the Queensland Braille Writing Association and a member of the association (Mrs. Cossey) visited Peel Island to teach the patient braille. In addition the association has provided all of



(2) HANSEN’S DISEASE IN THE ABORIGINAL POPULATION—1955-56.

the material for an extensive and comprehensive course of instruction and the patient is making excellent progress.

There was a decrease in the number of coloured patients at Fantome Island during the year as shown by the following table:—

TABLE XVI.

—	Males.	Females.	Total.
Inpatients at 1st July, 1955	26	10	36
Admitted .. ..	5	..	5
Discharged .. ..	9	4	13
Died .. ..	1	1	2
Remaining 30th June, 1956	21	5	26

*Medical Treatment.*—This is the second year in succession in which there has been a substantial reduction in the number of patients at Fantome Island. Such good results are due to the efficiency of the sulphone drugs. The principal drug in use is Solapsone (Sulphetrone) which is used in most cases in tablet form for oral administration but good results have also been obtained with Solapsone in 50 per cent. sterile aqueous solution for subcutaneous injection. Solapsone is a very safe drug for use where there is no continuous medical supervision and in the Australian Aboriginal it is very effective in dosage roughly half of that which is necessary for the white patient. In the past three years Dapsone (a sulphone) and Thiace-tazone (a thiosemicarbazone drug) have both been used on selected patients and the result with these drugs has also been very encouraging and again with these drugs very good results are obtained with approximately half of the dosage required by white patients.

Hansen’s disease in the Australian aboriginal shows the same clinical features as in white patients but the course of the disease and the response to treatment show some marked differences. For instance, the advancement of clinical signs from the first stages is more rapid than in the white patients, the development of skin lesions and the nerve changes are more rapid and on the average advance to a greater degree before the patient comes under treatment. On the other hand once the disease begins to respond to treatment, improvement is more rapid. Again, one is impressed by the relative absence of eye complications in the aboriginal as compared with the white patient, so that it will be seen that there are some interesting racial differences in the course of the disease.

The conditions for discharge of a patient from Fantome Island are twelve consecutive negative tissue smears over a period of twelve calendar months and a negative biopsy—the site of biopsy to be chosen by the medical officer.

*Medical and Nursing Care.*—The medical officer in charge of the hospital at Palm Island makes visits to Fantome Island to carry out routine examinations, surgical procedures, &c.,

and to prescribe treatment. He can be communicated with by radio telephone in an emergency for advice or he can be at Fantome Island inside an hour if required.

The nursing duties and general administration are carried out by members of the Order of Franciscan Missionaries of Mary. Several of the Sisters are experienced nurses and ably carry out the instructions of the medical officer. They also have had training in laboratory procedures such as blood and urine examinations and some also can cope with most of the dental work for the patients.

Very sick patients are cared for in a six-roomed hospital which has its own kitchen and attendants.

Patients requiring specialist, medical or surgical treatment are transferred to the Townsville Hospital.

*Occupational Therapy.*—The patients carry out a great many of the duties necessary to maintain the institution. Policemen, cooks, wood-cutters, groundsmen, garbage and sanitary men are all recruited from the ranks of the patients. The amount of work allotted is in proportion to the patient’s physical condition and payment is made accordingly.

Apart from these occupations, patients make clothing and furniture, collect shells, keep poultry and tend gardens, which is valuable occupational therapy. An element of competition is introduced by holding an annual show in July of each year when the various handicraft work and garden produce are exhibited.

*Entertainment.*—The institution has a 16-millimetre talking picture plant and the weekly picture show is very popular with all of the patients. In addition to the regular programmes obtained from the various film companies the institution has quite a library of travel films—mostly in colour and provided by the Canadian Tourist Bureau.

*Buildings, &c.*—During the past two years much has been done to improve the patients’ cottages. Floors have been repaired, caneite ceilings have been put up and all of the occupied dwellings have been made more weatherproof by the provision of double walls on weather sides. New shower rooms have been provided and some of the sanitary arrangements have been improved.

New vermin-proof cupboards have been built into the patients’ kitchens, thus providing more and better storage for foodstuffs.

*General.*—The year has been a successful one with 13 discharges and only five admissions. The good results obtained with the sulphone drugs and the continuing high rate of discharge of patients makes it possible that in a few years time Hansen’s disease will be almost completely eliminated from the coloured population of Queensland.

SECTION OF ENTHETIC DISEASES.

Medical Officer in Charge: Dr. GEOFFREY HAYES, M.B., Ch.M. (Syd.).  
Medical Officer: Dr. BEATRICE WARNER, M.B., B.S. (Melb.).

During the year 807 cases of venereal disease were notified to the Department (Notification is anonymous, names are not given). This is an increase of 106 above the notifications for the previous year.

This represents an incidence of 0·597 per 1,000 mean population as compared with 0·559 for the previous year. Of these notifications 132 were females and 675 males, as compared with 129 females and 572 males in the previous year.

Six hundred and seven patients were diagnosed as suffering from gonorrhoea, and 105 from syphilis, as compared with 443 and 129, respectively, for the previous year. Seventy-seven cases of venereal warts represented a decrease of 20, and cases of early syphilis (primary and secondary) showed a decrease from 75 in the previous year to 54.

Table XVII. dissects the incidence of notified venereal disease in Queensland for the past twelve months.

TABLE XVII.  
NOTIFIED VENEREAL DISEASE IN QUEENSLAND, 1955-56.

—				Metropolitan.		Outside Centres.		Whole State.		Total.
				Males.	Females.	Males.	Females.	Males.	Females.	
Gonorrhoea—										
Unspecified	..	..	..	..	1	12	..	12	1	13
Acute	..	..	..	427	59	73	10	500	69	569
Sub-acute	..	..	..	..	..	4	1	4	1	5
Chronic	..	..	..	1	4	..	9	1	13	14
Ophthalmia	..	..	..	..	..	1	1	1	1	2
Vulvo-vaginitis	..	..		..	..	..	3	..	3	3
				428	64	90	24	518	88	606
Syphilis—										
Unspecified	..	..	..	..	2	..	..	..	2	2
Primary	..	..	..	20	4	2	1	22	5	27
Secondary	..	..	..	9	7	6	4	15	11	26
Tertiary	..	..	..	7	2	3	2	10	4	14
Latent	..	..	..	9	10	3	3	12	13	25
Neuro	..	..	..	3	3	..	..	3	3	6
Pre-natal (Cong.)	..	..		2	1	..	1	2	2	4
				50	29	14	11	64	40	104
Soft Sore	..	..	..	14	..	1	..	15	..	15
Venereal Warts	..	..		77	..	..	..	77	..	77
Ulcerative Granuloma	..			..	..	1	3	1	3	4
Syphilis and Gonorrhoea	..			..	1	..	..	..	1	1
Syphilis and Warts	...	..		..	..	..	..	..	..	..
				569	94	106	38	675	132	807
				663		144		807		
				807						

Notifications from centres outside Brisbane, shown in Table XVIII. give some idea of the distribution.

As in recent years, the far north (Thursday Island, Cairns, and Townsville in that order) would appear on notification figures to have a much greater incidence than elsewhere outside the metropolis.



Table XIX. shows the number of venereal disease notifications since 1914, and the incidence per 1,000 of population.

TABLE XVIII.

CENTRES OF NOTIFICATION OF VENEREAL DISEASE OUTSIDE THE METROPOLIS.					
Centre.			Males.	Females.	Total.
Boulia .. ..	..	..	1	..	1
Bundaberg .. ..	..	..	1	..	1
Cairns .. ..	..	..	18	6	24
Charters Towers .. ..	..	..	3	1	4
Cleveland .. ..	..	..	1	..	1
Cloncurry .. ..	..	..	2	1	3
Collinsville .. ..	..	..	1	..	1
Cunnamulla .. ..	..	..	5	..	5
Dalby .. ..	..	..	1	..	1
Emerald .. ..	..	..	1	..	1
Georgetown .. ..	..	..	1	..	1
Gladstone .. ..	..	..	1	..	1
Goondiwindi .. ..	..	..	1	2	3
Gordonvale .. ..	..	..	1	..	1
Gympie .. ..	..	..	1	..	1
Ingham .. ..	..	..	1	..	1
Ipswich .. ..	..	..	..	1	1
Longreach .. ..	..	..	1	..	1
Mackay .. ..	..	..	2	..	2
Maryborough .. ..	..	..	4	1	5
Mitchell .. ..	..	..	..	1	1
Mount Isa .. ..	..	..	1	..	1
Murgon .. ..	..	..	2	1	3
Palm Island .. ..	..	..	5	1	6
Pomona .. ..	..	..	1	..	1
Quilpie .. ..	..	..	2	..	2
Redcliffe .. ..	..	..	1	..	1
Rockhampton .. ..	..	..	1	2	3
Roma .. ..	..	..	3	..	3
Southport .. ..	..	..	1	..	1
Surfers Paradise .. ..	..	..	1	..	1
Thursday Island .. ..	..	..	25	19	44
Toowoomba .. ..	..	..	2	..	2
Townsville .. ..	..	..	12	2	14
Tully .. ..	..	..	1	..	1
Winton .. ..	..	..	1	..	1
			106	38	144

TABLE XIX.

SHOWING NUMBER OF NOTIFICATIONS OF VENEREAL DISEASE SINCE 1914.					
Fiscal Year.			Notifi- cations.	Mean Population.	Incidence per 1,000 Popula- tion.
1914-15 .. ..	..	..	1,414	688,212	2.054
1915-16 .. ..	..	..	1,946	690,494	2.818
1916-17 .. ..	..	..	1,477	680,772	2.171
1917-18 .. ..	..	..	..	688,946	..
1918-19 .. ..	..	..	2,003	707,732	2.83
1919-20 .. ..	..	..	2,848	737,463	3.861
1920-21 .. ..	..	..	2,302	754,374	3.051
1921-22 .. ..	..	..	1,815	769,180	2.359
1922-23 .. ..	..	..	1,710	785,466	2.177
1923-24 .. ..	..	..	1,521	804,442	1.889
1924-25 .. ..	..	..	1,503	825,313	1.821
1925-26 .. ..	..	..	1,401	847,757	1.652
1926-27 .. ..	..	..	1,319	864,502	1.525
1927-28 .. ..	..	..	1,373	877,753	1.564
1928-29 .. ..	..	..	1,382	891,435	1.55
1929-30 .. ..	..	..	1,541	903,703	1.705
1930-31 .. ..	..	..	1,552	917,830	1.69
1931-32 .. ..	..	..	1,841	930,456	1.978
1932-33 .. ..	..	..	1,464	940,628	1.556
1933-34 .. ..	..	..	1,576	950,462	1.595
1934-35 .. ..	..	..	1,248	961,200	1.298
1935-36 .. ..	..	..	1,125	972,767	1.156
1936-37 .. ..	..	..	1,211	984,056	1.23
1937-38 .. ..	..	..	1,256	996,448	1.26
1938-39 .. ..	..	..	1,147	1,008,207	1.127
1939-40 .. ..	..	..	1,091	1,021,426	1.077
1940-41 .. ..	..	..	1,328	1,032,122	1.286
1941-42 .. ..	..	..	1,207	1,036,690	1.164
1942-43 .. ..	..	..	3,101	1,040,433	2.98
1943-44 .. ..	..	..	2,718	1,054,810	2.576
1944-45 .. ..	..	..	2,391	1,068,630	2.24

TABLE XIX.—continued.

Fiscal Year.			Notifi- cations.	Mean Population.	Incidence per 1,000 Popula- tion.
1945-46 .. ..	..	..	1,309	1,084,125	1.207
1946-47 .. ..	..	..	1,373	1,097,303	1.251
1947-48 .. ..	..	..	1,000	1,114,634	.897
1948-49 .. ..	..	..	846	1,140,816	.742
1949-50 .. ..	..	..	731	1,173,232	.623
1950-51 .. ..	..	..	626	1,207,194	.519
1951-52 .. ..	..	..	627	1,239,868	.506
1952-53 .. ..	..	..	757	1,272,244	.595
1953-54 .. ..	..	..	740	1,300,464	.569
1954-55 .. ..	..	..	741	1,325,336	.559
1955-56 .. ..	..	..	807	1,352,650(r)	.597

(r) Subject to revision.

Table XX. shows the alleged sources of the notified infections of which 56 are attributed to professional prostitutes as compared with 39 last year. Twenty-seven prostitutes (professional) were found infected (and treated) as compared with 20 in the previous year.

TABLE XX.

SHOWING SOURCES OF INFECTION.

Non-prostitutes .. ..	..	..	..	591
Unknown .. ..	..	..	..	115
Prostitutes .. ..	..	..	..	48
Occupational (prostitutes) .. ..	..	..	..	27
Brothel .. ..	..	..	..	5
Mothers .. ..	..	..	..	4
Husbands .. ..	..	..	..	4
Black Gins .. ..	..	..	..	3
Unknown Prostitutes .. ..	..	..	..	3
Parents .. ..	..	..	..	1
Drinking Glasses (Ch. on Lip) .. ..	..	..	..	1
Lavatory Seat .. ..	..	..	..	1
Wives .. ..	..	..	..	4
				807

Tables XXI. and XXII. show the marital status and age groups of the cases notified and follow the same trend as in former years.

TABLE XXI.

MARITAL STATUS.

			Males.	Females.	Total.
Married .. ..	..	..	97	36	133
Single .. ..	..	..	550	53	603
Separated .. ..	..	..	16	4	20
Widowed .. ..	..	..	9	4	13
Divorced .. ..	..	..	1	0	1
Unknown .. ..	..	..	2	35	37
			675	132	807

TABLE XXII.

SHOWING AGE GROUPS OF NOTIFIED CASES.

Age Group.			Males.	Females.	Total.
Under 1 year .. ..	..	..	3	1	4
1-5 years .. ..	..	..	..	1	1
6-10 years .. ..	..	..	..	4	4
11-15 years .. ..	..	..	..	4	4
16-20 years .. ..	..	..	86	26	112
21-25 years .. ..	..	..	190	21	211
26-30 years .. ..	..	..	144	12	156
31-35 years .. ..	..	..	93	10	103
36-40 years .. ..	..	..	58	9	67
41-45 years .. ..	..	..	46	4	50
46-50 years .. ..	..	..	16	1	17
51-55 years .. ..	..	..	18	1	19
56-60 years .. ..	..	..	8	1	9
61-65 years .. ..	..	..	3	..	3
Over 65 years .. ..	..	..	2	..	2
Unknown .. ..	..	..	8	37	45
			675	132	807

Table XXIII. shows the sources of the notifications received. It will be seen that 9·3 per cent. of these were received from private practitioners as compared with 8·1 per cent. last year and 9·3 per cent in the previous year. Of the remainder of the notifications, approximately 10·5 per cent. came from public hospitals and 80·2 per cent. from clinics (mainly the two ad hoc clinics in Brisbane).

TABLE XXIII.  
SHOWING SOURCES OF NOTIFICATION.

—	Males.	Females.	Total.
Private Doctors—			
Brisbane .. ..	18	10	28
Outside Centres .. ..	41	6	47
Total .. ..	59	16	75
Hospitals—			
Brisbane .. ..	10	11	21
Outside Centres .. ..	43	21	64
Total .. ..	53	32	85
Clinics—			
Brisbane .. ..	541	73	614
Outside Centres .. ..	22	11	33
Total .. ..	563	84	647
Total all sources .. ..	675	132	807

#### AD HOC CLINICS—BRISBANE.

As in the previous twelve months approximately three-fourths of all venereal disease cases (on notification figures) were handled by the two ad hoc clinics in Brisbane (Colchester street for males, and William street for females) the actual percentages being 1954, 74·2 per cent, 1955–56, 76·2 per cent.

Also, it should be noted that in addition to these cases of notifiable venereal disease—a considerable number of cases of non-notifiable infections of the lower genito-urinary tract attend these clinics for investigation and treatment. The closure of these clinics, therefore, is not a possibility in the foreseeable future.

These clinics also serve a useful purpose as teaching centres for medical students who otherwise would have little or no opportunity of becoming acquainted with the diagnosis and treatment of these diseases and the overall increase (approx. 13 per cent.) in State-wide notifications for the year under review shows that education—both lay and professional—must be maintained. To this end it is proposed that certain equipment for which little or no use can now be found in the clinic should be disposed of and expenditure to this value spent on V.D. information particularly in the fields of visual education and similar aids to teaching, lecturing and propaganda.

The following statistical returns cover the activities of the Male and Female ad hoc clinics in Brisbane.

#### DEPARTMENTAL CLINIC FOR MALES.

##### A. Record of Activities.

New Cases .. ..	1,340
Total Visits .. ..	11,937
Notifications .. ..	541
Injections—	
Arsenic .. ..	Nil
Bismuth .. ..	11
Penicillin .. ..	797
	808

Blood samples for Wasserman tests ..	1,780
Smears to Departmental Laboratory ..	635
Smears examined at Clinic .. ..	4,854
Dark Ground Tests at Clinic .. ..	52
Prophylactic Treatments .. ..	1,129

##### B. Notifications (Dissected).

Early Syphilis—	
Primary .. ..	20
Secondary .. ..	7
Latent .. ..	8
Late Syphilis—	
Tertiary .. ..	3
Latent .. ..	1
	39
Gonorrhoea—	
Acute .. ..	410
Chronic .. ..	1
	411
Venereal (Genital) Warts .. ..	77
Soft Sore (Clinical Diagnosis only) ..	14
Total Venereal Disease Cases Notified ..	541

#### DEPARTMENTAL CLINICS FOR FEMALES.

##### RECORD OF ACTIVITIES—

##### A. Women's Clinic.

Total Interviews .. ..	618
New Patients .. ..	141
Bismuth Injections .. ..	109
Penicillin Injections .. ..	164
Smears taken .. ..	406
Bloods taken .. ..	197
Dark Ground Examinations .. ..	8
Patients from whom Cultures taken ..	161
Number of Cultures Prepared .. ..	392

##### B. William street Rooms (Examination of Prostitutes).

Examinations .. ..	1,953
Bloods taken .. ..	183
Dark Ground Examinations .. ..	Nil
Smears taken .. ..	3,892
Patients cultured .. ..	15
Number of Cultures prepared .. ..	30

##### C. Notifications (Dissected).

Acute Gonorrhoea .. ..	53
Chronic Gonorrhoea .. ..	4
Treated Gonorrhoea .. ..	1
Primary Syphilis .. ..	2
Secondary Syphilis .. ..	5
Latent Syphilis .. ..	6
Treated Syphilis .. ..	2
Total .. ..	74

##### Of these 74 Cases—

27 were professional prostitutes—	
Acute Gonorrhoea .. ..	23
Chronic Gonorrhoea .. ..	1
Latent Syphilis .. ..	3
	27

##### 8 were prisoners from H.M. Prison—

Acute Gonorrhoea .. ..	5
Primary Syphilis .. ..	1
Latent Syphilis .. ..	2
	8



SECTION OF FOOD AND DRUGS.

The work of this section embraces all aspects of food and drug control. The law to be policed includes the relevant sections of the Health Acts, the Food and Drug Regulations, the Health (Food Supply) Regulations, the Milk-sellers' Regulations, the Poisons Regulations, and the Health (Insecticide) Regulations. The main objects of the section is to ensure that the public is sold food of prescribed standards, free from adulteration, produced and handled under hygienic conditions, and correctly packed and labelled. In addition control is exercised also to ensure that poisons and drugs are correctly packed, labelled, and handled. The field of work is a wide one and the year's activities are briefly recapitulated below.

*Milk.*—Every endeavour has been made to ensure that this most important article of the public diet arrives at its point of consumption in the best possible condition. The demand for pasteurised milk is steadily growing and there is a chain of factories from South Queensland to North Queensland supplying the major part of the State. Regular inspections of these factories and testing of their products have been carried out and, in addition, close liaison has been effected with the Dairying Branch of the Department of Agriculture and Stock in regard to milk premises. In the main, results have been most satisfactory. One excellent feature has been the co-operation of the companies and associations controlling these

factories and this has led to the quick correction of faults detected during inspections. It is also pleasing to note that improvements to plant and premises are continually being undertaken and the year under review has seen many improvements completed and plans and preparations under way for others, not only in the metropolis but also in the country districts.

It will be recalled that, in last year's report, attention was drawn to the installation of plants in western areas for the bottling of milk, which had previously been pasteurised and forwarded in bulk. Though long distances have been involved in the transport of this milk, it is a source of satisfaction that regular tests of the milk have proved satisfactory. This method of ensuring a regular and safe supply is being undertaken in other centres, where climatic conditions militate against a regular local supply. Such schemes cannot fail to be a boon to residents of those areas.

Sampling operations have been carried out throughout the State, not only from factories but also from vendors and suppliers of raw milk. Particulars of the samples obtained may be seen in the report of the Government Chemical Laboratory. Prosecutions for the sale of milk adulterated with water were successfully undertaken in twenty-three instances, and fines of £308 10s. were secured, together with £73 18s. costs.

TABLE XXIV.  
PROSECUTIONS FOR SALE OF MILK ADULTERATED WITH WATER—1955–1956.

Date.					Place.				Fines.			Costs.		
									£	s.	d.	£	s.	d.
1955—														
5th July	..	..	..	..	Maryborough	..	..	..	20	0	0	1	11	0
17th July	..	..	..	..	Ipswich	..	..	..	10	0	0	1	11	0
17th July	..	..	..	..	Woodford	..	..	..	10	0	0	1	11	0
22nd July	..	..	..	..	Brisbane	..	..	..	9	0	0	1	11	0
2nd August	..	..	..	..	Proserpine	..	..	..	10	0	0	1	11	0
4th October	..	..	..	..	Innisfail	..	..	..	6	0	0	8	7	0
10th October	..	..	..	..	St. George	..	..	..	20	0	0	1	11	0
26th October	..	..	..	..	Gladstone	..	..	..	12	10	0	1	11	0
3rd November	..	..	..	..	Ayr	..	..	..	40	0	0	7	1	0
10th November	..	..	..	..	Home Hill	..	..	..	28	0	0	8	2	0
29th November	..	..	..	..	Rosewood	..	..	..	5	0	0	4	14	0
29th November	..	..	..	..	Rosewood	..	..	..	6	0	0	1	11	0
29th November	..	..	..	..	Cairns	..	..	..	6	0	0	3	13	0
29th November	..	..	..	..	Cairns	..	..	..	3	0	0	3	13	0
29th November	..	..	..	..	Cairns	..	..	..	6	0	0	3	13	0
30th November	..	..	..	..	Mackay	..	..	..	20	0	0	1	11	0
2nd December	..	..	..	..	Gympie	..	..	..	10	0	0	1	11	0
1956—														
19th January	..	..	..	..	Malanda	..	..	..	20	0	0	4	19	0
19th January	..	..	..	..	Malanda	..	..	..	18	0	0	4	19	0
3rd February	..	..	..	..	Hughenden	..	..	..	15	0	0	1	11	0
20th March	..	..	..	..	Malanda	..	..	..	10	0	0	1	11	0
28th May	..	..	..	..	Toowoomba	..	..	..	4	0	0	1	11	0
19th June	..	..	..	..	Ipswich	..	..	..	20	0	0	4	14	0
Totals					..	..	..	..	308	10	0	73	18	0

The sale of milk adulterated other than with water resulted in three prosecutions, two for serious deficiencies in milk fat and one for the sale of milk which had not been correctly pasteurised. It is worth while noting that the failure to pasteurise milk correctly in this case was due to the absence for repair of a vital part of the plant. Remedial precautions were immediately taken by the company concerned and the provision of a spare unit should prevent any recurrence. Details of these prosecutions are shown in Table XXV.

TABLE XXV.

PROSECUTIONS FOR SALE OF ADULTERATED MILK, OTHER THAN ADULTERATED WITH WATER—1955–1956.									
Date.		Place.		Form of Adulteration.				Fines.	Costs.
1955—								£ s. d.	£ s. d.
18th July	.. ..	Rockhampton	.. ..	Deficient in milk fat	.. ..			6 0 0	1 11 0
12th October	.. ..	Nambour	.. ..	Not correctly pasteurised	.. ..			5 0 0	1 11 0
1956—									
17th February	.. ..	Yeppoon	.. ..	Deficient in milk fat	.. ..			10 0 0	1 11 0
				Totals	.. ..			21 0 0	4 13 0

In two centres it was found necessary to prosecute vendors for regulation breaches and these offences and the resultant fines are detailed in the Table XXVI.

TABLE XXVI.

MISCELLANEOUS PROSECUTIONS OF MILKSELLERS—1955–1956.									
Date.		Place.		Basis of Prosecution.				Fines.	Costs.
1955—								£ s. d.	£ s. d.
12th October	.. ..	Gladstone	.. ..	No lids on milk vessels	.. ..			3 10 0	0 10 0
12th October	.. ..	Gladstone	.. ..	No lids on milk vessels	.. ..			3 10 0	0 10 0
1956—									
9th February	.. ..	Mossman	.. ..	No cover on milk tap	.. ..			2 0 0	0 10 0
9th February	.. ..	Mossman	.. ..	No lid on milk measure	.. ..			3 0 0	0 10 0
				Totals	.. ..			12 0 0	2 0 0

Complaints of foreign matter in milk have been received during the year and all such complaints have been promptly investigated. The bottling of milk for the State’s population means that countless thousands of bottles are used daily. Considering this fact, the percentage of bottles complained of is remarkably small and would indicate that the factories do make every effort to avoid such offences.

As usual, every assistance was afforded to the Department of Public Instruction in regard to the free milk scheme for school children and many proposals have been examined and commented upon, whilst any complaints received prompt attention.

*Ice Cream.*—Much work was done during the year in regard to ice cream and other frozen foods. These lines are popular items of diet

and continuous inspections of premises and sampling of the various products have been done to ensure that the requirements of the law are observed. Any faults detected received immediate correction.

*Preservative in Mince Meat.*—From the number of prosecutions for the offence of putting preservative in minced meat, it would appear that there are still some butchers not prepared to observe the regulations. However, the percentage of butchers who conform is steadily increasing and continued supervision should result in still further improvement. In all, twenty-nine successful prosecutions were undertaken, and fines and costs totalling £213 1s. secured, whilst for the offence of selling sausages containing more than the permitted proportion of preservative, four offenders were fined a total of £48 14s., fines and costs.

TABLE XXVII.

PROSECUTIONS FOR ADULTERATED MEAT—1955–56.									
Date.		Place.		Basis of Prosecution.				Fines.	Costs.
1955—								£ s. d.	£ s. d.
15th July	.. ..	Brisbane	.. ..	Preservative added	.. ..			10 0 0	1 11 0
18th July	.. ..	Gordonvale	.. ..	Preservative added	.. ..			5 0 0	1 16 0
10th August	.. ..	Brisbane	.. ..	Preservative added	.. ..			5 0 0	1 11 0
19th August	.. ..	Tully	.. ..	Preservative added	.. ..			3 0 0	1 11 0
1956—									
22nd March	.. ..	Brisbane	.. ..	Preservative added	.. ..			5 0 0	1 11 0
22nd March	.. ..	Brisbane	.. ..	Preservative added	.. ..			5 0 0	1 11 0
28th March	.. ..	Brisbane	.. ..	Preservative added	.. ..			5 0 0	1 11 0



TABLE XXVII.—*continued.*  
PROSECUTIONS FOR ADULTERATED MEAT—1955-56—*continued.*

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
			£ s. d.	£ s. d.
28th March.. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
18th April .. ..	Brisbane .. ..	Preservative added .. ..	10 0 0	1 11 0
26th April .. ..	Brisbane .. ..	Preservative added .. ..	8 0 0	1 11 0
26th April .. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
26th April .. ..	Brisbane .. ..	Preservative added .. ..	20 0 0	1 11 0
26th April .. ..	Brisbane .. ..	Preservative added .. ..	10 0 0	1 11 0
26th April .. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
2nd May .. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
2nd May .. ..	Brisbane .. ..	Preservative added .. ..	12 0 0	1 11 0
2nd May .. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
9th May .. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
9th May .. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
10th May .. ..	Brisbane .. ..	Preservative added .. ..	3 0 0	1 11 0
10th May .. ..	Brisbane .. ..	Preservative added .. ..	3 0 0	1 11 0
10th May .. ..	Brisbane .. ..	Preservative added .. ..	4 0 0	1 11 0
10th May .. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
10th May .. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
10th May .. ..	Brisbane .. ..	Preservative added .. ..	5 0 0	1 11 0
10th May .. ..	Brisbane .. ..	Preservative added .. ..	2 10 0	1 11 0
14th May .. ..	Gympie .. ..	Preservative added .. ..	2 0 0	1 11 0
14th May .. ..	Gympie .. ..	Preservative added .. ..	2 0 0	1 11 0
17th May .. ..	Bowen .. ..	Preservative added .. ..	3 0 0	1 16 0
Totals .. ..			167 10 0	45 11 0

TABLE XXVIII.  
PROSECUTIONS FOR ADULTRATED SAUSAGES—1955-56.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
			£ s. d.	£ s. d.
1956—				
28th March.. ..	Mareeba .. ..	Excess preservative and meat deficiency ..	15 0 0	1 11 0
28th March.. ..	Brisbane .. ..	Excess preservative .. ..	5 0 0	1 11 0
26th April .. ..	Brisbane .. ..	Excess preservative .. ..	10 0 0	1 11 0
14th June .. ..	Cairns .. ..	Excess preservative .. ..	12 10 0	1 11 0
Totals .. ..			42 10 0	6 4 0

*Liquor-testing, &c.*—Liquor-testing has been carried out all over the State during the year under review and, consequent on these operations, two licensees were prosecuted and ordered to pay fines and costs totalling £33 2s. for the offence of selling adulterated whisky.

TABLE XXIX.  
PROSECUTIONS FOR ADULTERATED LIQUOR—1955-1956.

Date.	Place.	Offence.	Fines.	Costs.
			£ s. d.	£ s. d.
1955—				
8th August .. ..	Brisbane .. ..	Selling adulterated whisky ..	15 0 0	1 11 0
1956—				
26th March .. ..	Rockhampton .. ..	Selling adulterated whisky ..	15 0 0	1 11 0
Totals .. ..			30 0 0	3 2 0

*Hotels Generally.*—Attention was given to glass washing and denaturing of beer wastes, and definite improvement has been secured. Where the facilities necessary for the effective working of automatic glass-washing machines serviced with hot water are available, their installation has been ordered.

New types of machines submitted for approval have been tested. These tests are such that, if the machines can satisfy them, their proper use in glass washing will ensure glasses of a very high standard of cleanliness.

*Bread, Flour, &c.*—Surveys of breads and flours were made and results were generally satisfactory. One baker was proceeded against for selling wholemeal bread which contained less

than the prescribed percentage of wholemeal. Bakehouses have been inspected and many defects have been corrected. During these inspections attention was paid to hygiene of personnel and as a result two operatives found smoking whilst working in bakehouses were prosecuted.

Complaints of foreign matter in bread were also investigated and one baker was prosecuted for selling bread containing an insect.

Three bakers were prosecuted for having dirty premises and these prosecutions are detailed in the list of miscellaneous prosecutions listed below.

*Food Manufacture Generally.*—Many visits of inspection were made to food manufacturers and processors and action was found necessary

in some instances to bring premises and methods of manufacture into line with requirements. Generally it was found that manufacturers co-operated in these improvements.

*Soft Drinks, &c.*—In this State there is a big market for soft drinks. Standards and labelling requirements are laid down in the Food and Drug regulations. During the year many samples of soft drinks were obtained for analysis with a view to correcting breaches of the standards and labelling defects and quite a deal of useful work was done in this regard. Steps have been taken to improve premises and advice freely given to manufacturers whose co-operation has resulted in generally improved conditions.

*Labelling.*—The law provides that foods shall not be falsely described and various regulations are in force to ensure that packages of foods are correctly labelled. These matters come regularly under attention with the correction of defects. A pleasing feature is the co-operation existing with the trade which continually seeks the advice of the department in respect to the labelling and packing of new lines.

*Complaints.*—Numerous complaints were received and as a result corrective action was taken in regard to premises, methods of manufacture, and wholesomeness of foodstuffs.

*Bacteriological Samples.*—Continuing the policy inaugurated last year, a wide variety of samples were submitted to the Laboratory of Microbiology and Pathology for bacteriological examination. The results obtained were found useful in improving hygiene of premises and quality of foods. This is particularly evident with milk and allied products, such as ice cream, where bacteriological results give a good indication of efficiency of processing.

*Miscellaneous.*—Amongst other duties, officers of this section have paid attention to the quality of goods sold at auction marts, the Queen's warehouse, retail stores, and warehouses. Coverage has been provided at every possible avenue of

food production and handling. As a result of these inspections a quantity of food, &c., was found unsuitable for human consumption, and this is listed in Table XXX.

TABLE XXX.  
PARTICULARS OF UNSOUND FOODS DESTROYED—  
1955-56.

Food.	Weight.			
	T.	C.	Q.	L.
Bacon .. .. .	0	1	1	0
Breakfast foods .. .. .	0	0	2	23
Cheese .. .. .	0	0	3	16
Confectionery .. .. .	0	2	0	7
Dates .. .. .	1	11	3	14
Fish—				
Canned .. .. .	0	17	0	5
Fresh .. .. .	0	14	0	11
Flour .. .. .	0	8	2	7
Fruits—				
Canned .. .. .	2	1	0	4
Fresh .. .. .	0	16	1	0
Preserved .. .. .	0	0	1	12
Fruit juices .. .. .	0	19	2	24
Jams .. .. .	0	1	2	9
Macaroni .. .. .	0	6	0	10
Meats—				
Cooked .. .. .	0	2	2	24
Fresh .. .. .	0	1	1	10
Milk—Condensed .. .. .	0	0	1	14
Nuts .. .. .	0	9	1	5
Pickles .. .. .	0	1	2	26
Poultry—Dressed .. .. .	0	0	3	0
Prawns .. .. .	0	7	1	8
Rice .. .. .	1	18	2	0
Sauces .. .. .	0	7	2	14
Soup—Canned .. .. .	0	0	3	16
Sugar .. .. .	0	18	3	0
Tapioca .. .. .	0	3	1	12
Tea .. .. .	0	3	0	17
Vegetables—				
Canned .. .. .	0	8	2	20
Fresh .. .. .	1	18	3	5
Miscellaneous .. .. .	0	0	2	0
Totals .. .. .	15	5	1	5

In addition the following drugs were destroyed during the year:—2 cwt. 2 qr. 26 lb. of tobacco and 9,242,282 cigarettes.

Prosecutions were found necessary in some instances and such miscellaneous prosecutions are detailed with others previously mentioned in Table XXXI.

TABLE XXXI.  
MISCELLANEOUS PROSECUTIONS—1955-56.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
1955—			£ s. d.	£ s. d.
5th July .. .. .	Cairns .. .. .	Failing to comply with Director-General's Notice .. .. .	10 0 0	4 4 0
18th July .. .. .	Westwood .. .. .	Dirty food premises .. .. .	5 0 0	0 10 0
3th August .. .. .	Gatton .. .. .	Selling bread containing an insect (cricket) .. .. .	3 0 0	1 11 0
27th September .. .. .	Brisbane .. .. .	Operative smoking in bakehouse .. .. .	5 0 0	0 10 0
27th September .. .. .	Brisbane .. .. .	Operative smoking in bakehouse .. .. .	5 0 0	0 10 0
28th September .. .. .	Brisbane .. .. .	Selling meat pastie containing broken glass .. .. .	1 10 0	1 11 0
27th October .. .. .	Babinda .. .. .	Dirty bakehouse premises .. .. .	15 0 0	0 10 0
1956—				
16th March .. .. .	Cairns .. .. .	Vermin infested food premises .. .. .	10 0 0	0 10 0
16th March .. .. .	Cairns .. .. .	Dirty bakehouse premises .. .. .	10 0 0	0 10 0
1st April .. .. .	Brisbane .. .. .	Dirty bakehouse premises .. .. .	9 10 0	0 10 0
1st April .. .. .	Brisbane .. .. .	Waste foods not placed in refuse bin .. .. .	9 10 0	0 10 0
1st April .. .. .	Brisbane .. .. .	Food exposed to contamination .. .. .	4 10 0	0 10 0
7th June .. .. .	Malanda .. .. .	Selling wholemeal bread not to the prescribed standard .. .. .	4 0 0	1 16 0
12th June .. .. .	Mount Morgan .. .. .	Selling bread wrapped in newspaper .. .. .	2 0 0	0 10 0
Totals .. .. .			94 0 0	14 2 0



*Fish.*—Inspection of fish at the Brisbane Fish Markets has been efficiently carried out by officers of this section and all fish found unfit for human consumption was condemned and destroyed. Vendors' vehicles and premises did not escape attention and all action necessary to correct defects was taken.

Coverage of large quantities of fish going through the Fish Board's premises at Townsville was afforded by our officers and, as a result of their inspections 14 cwt. of fish of different varieties was found unfit for human consumption and destroyed.

Details of fish condemned at Brisbane are shown in Table XXXII.

TABLE XXXII.  
QUANTITY OF FISH CONDEMNED AND DESTROYED  
AT THE FISH MARKETS, SOUTH BRISBANE.

Class of Fish.	Weight.			
	T.	C.	Q.	L.
Bass .. .. .	0	0	2	27
Batfish .. .. .	0	0	0	13
Bream .. .. .	2	6	3	20
Catfish .. .. .	0	5	1	10
Cuttlefish .. .. .	0	0	0	3
Chinaman .. .. .	0	0	1	11
Cod .. .. .	0	1	3	24
Coral Trout .. .. .	0	0	2	20
Dart .. .. .	0	8	2	5
Eel .. .. .	0	0	0	5
Emperor .. .. .	0	0	0	18
Fillets—Frozen—Mullet .. .. .	1	10	2	6
Flathead .. .. .	0	9	3	20
Flounder .. .. .	0	0	0	4
Flounder (fillets) .. .. .	1	4	1	4
Garfish .. .. .	0	6	1	17
Groper .. .. .	0	2	2	8
Jewfish .. .. .	0	6	1	17
Johnny Dory .. .. .	0	0	0	8
Lobsters .. .. .	0	9	2	10
Long Toms .. .. .	0	0	2	16
Mackerel .. .. .	0	14	0	18
Mixed fish .. .. .	0	5	2	20
Morwong .. .. .	0	0	2	8
Mud Crabs .. .. .	171 Crabs.			
Mullet .. .. .	72	15	0	10
Oysters .. .. .	217 Bottles.			
Parrot .. .. .	0	0	0	10
Perch .. .. .	0	0	3	17
Pike .. .. .	0	1	1	15
Prawns .. .. .	22	8	2	12
Runner .. .. .	0	0	1	1
Salmon .. .. .	0	4	3	10
Sand Crabs .. .. .	4,300 Crabs.			
Sawfish .. .. .	0	0	1	18
Schnapper .. .. .	0	1	0	20
Shark .. .. .	0	1	2	1
Shark (fillets) .. .. .	0	1	0	5
Sole .. .. .	0	0	0	8
Squid .. .. .	0	1	1	21
Squire .. .. .	0	1	2	0
Stingray .. .. .	0	2	1	15
Sweetlip .. .. .	0	11	0	23
Tailor .. .. .	0	3	0	19
Trevally .. .. .	1	11	3	16
Trumpeter .. .. .	0	4	0	14
Turrum .. .. .	0	11	1	20
Whiting .. .. .	0	12	3	16
Yellowtail .. .. .	0	0	3	13
Totals .. .. .	108	12	0	8

*Poisons and Drugs.*—The work involved in control of poisons and drugs constitutes a large part of the work of this section. The ever-increasing production of new drugs, and the widening use of chemicals for all purposes increases the work necessary to secure the control desirable for the protection of the public.

Drug addiction is a most serious matter and one of vital concern to all countries. The work of controlling the habit-forming drugs with a view to preventing addiction is of the utmost importance and during the year received the closest attention. Queensland law is so framed as to provide good control provided supervision of distribution and dispensing are adequate. Carrying out this control involved constant checking of all dealings in dangerous drugs and has meant continued inspections and interviews with persons authorised to handle dangerous drugs. Records of dangerous drug dealings by medical practitioners, pharmaceutical chemists, veterinary surgeons and in hospitals have all come under scrutiny, and corrective action taken in many instances.

Dealers in other poisons were not neglected during the year and numerous inspections were made of premises. Poisons laws are made to protect the public and particular care has been paid to the proper packing and labelling of poisons. Here again, the co-operation of the trade plays no small part in the success obtained by seeking and heeding the advice of this department in regard to new lines to be put on the market.

Check sampling has been done with quite a few of the more common and more popular drugs on the market. As a result, the standard of these preparations was checked and, where necessary, steps taken to correct defects not only in quality but also in labelling.

Advertising of patent medicines also came closely under scrutiny. Advertising of such products is controlled by regulations, devised to keep such advertising within rational limits. As a result of work by officers of this section, quite a deal of offending advertising was corrected.

Several conferences have been attended in regard to uniform poisons schedules for the Commonwealth and most of the preparatory work has been done. The adoption by all States of uniform schedules would be a most desirable and most progressive advance in the control of poisons and drugs.



## ENVIRONMENTAL SANITATION

In “*The Health Acts, 1937 to 1955*,” and the various regulations thereunder, the provisions relating to environmental sanitation are delegated to Local Authorities for administration. Local Authorities are also given power to make By-laws concerning sanitation. These By-laws may be more specific than the existing law or may even extend the powers of the Local Authority.

With the powers already given them, together with further powers which may be assumed by By-law, Local Authorities are well equipped to control sanitation and preventable diseases in their areas. But unless each Local Authority is prepared to assume its full responsibility in environmental sanitation the legal powers are of little value.

Reports received from departmental inspectors, Local Authority Medical Officers of Health and inspectors, would indicate that most Local Authorities do attempt to meet their responsibilities, some with greater enthusiasm than others. But there is still a minority of Local Authorities where environmental sanitation does not receive the attention it should. In some instances this is due to the Local Authority not being able to obtain the services of a health inspector to bring health matters to their notice, but there are instances where the recommendations of the inspector are ignored.

The Local Authority relies on its officers for the performance of the various functions of Local Government, and, in its Medical Officer of Health and its health inspector, it should have an efficient team for the control of preventable diseases. It is the inspector on whom the greater part of the field work falls, and he can do much by constant and regular inspections to have defects remedied before serious nuisance or danger results and possibly before the expenditure of large sums of money are necessary.

As a result of these inspections the inspector can ascertain what steps the Local Authority can and should take in the abatement of nuisances and other matters of environmental sanitation, and be in a position to offer advice or make recommendations to the Local Authority on what is required.

When a Local Authority and its health team each have complete confidence in the other, steady progress can be made, within the financial resources of the council.

The distribution of inspectors in the State is as follows.

	1955-56.	1954-55.
Brisbane City Council .. ..	31	31
Cities and towns .. ..	39	34
Shires employing one or more inspectors .. ..	31	32
Joint areas (one or more Local Authorities) .. ..	22	23
	<hr/> 123	<hr/> 120

This shows an increase of three (3) in the last year. While the above figures would lead to the conclusion that the gain has been in the cities and towns at the expense of the country, the true position does not show any deterioration but a rather better trend for the future. Firstly one Local Authority has voluntarily withdrawn from a joint area and now employs an inspector wholly in its area. Secondly a number of Local Authorities which have been without an inspector for years have been successful in obtaining one. This is particularly so in the central part of the State. Thirdly a number of vacancies have occurred just at the end of the year, and it is confidently expected that most of them will be filled in the near future, as is known that there are applicants for the positions. Should this occur only the northern and north-western part of the State will be without health inspectors. With the development which is inevitable in the north-west it is hoped that this will not continue.

*Nightsoil Removal and Disposal.*—There are two well established methods of removing human wastes from a community—the water carriage system and earth closets using pans which are removed manually at regular intervals.

The water carriage system may involve the construction of expensive and extensive sewers to convey the sewage to a suitable outfall, and the capital outlay is often a financial burden which Local Authorities are loth to accept. However, it is pleasing to report that several Local Authorities are considering this system for towns and townships in their areas, while some cities and towns which already have sewerage are extending their sewers to meet the growing needs of the community.

In the absence of sewerage in many parts of the State the earth closet has played an important part in the prevention of the spread of intestinal diseases. This closet has its obvious disadvantages, and it is not surprising that efforts have been made to replace it with something more aesthetic. Most Local Authorities in this State are resisting the sales campaigns of various vendors of appliances designed to replace the earth closet, until they are satisfied that what is offered is really as safe as (or safer than) the unit it is intended to replace. There is no doubt that some of the appliances offered are not as safe as the earth closet, while others have shown considerable ingenuity in efforts to design an appliance which the vendors hope will overcome present objections.

It is hoped that these efforts will be successful, and that the earth closet can be replaced. However, until this goal is reached, Local Authorities should not relax their supervision of the collection, removal, and disposal of nightsoil. Reports indicate that there is still room for improvement in all three aspects of the system.



In the collection of nightsoil on the premises, there is evidence that many pansteads are not flyproof. Constant and regular house inspections, together with education of the householder, are necessary to ensure that pansteads are kept so that flies are denied access to possibly infected material.

The weekly removal of pans has shown improvement in that in some areas where airtight lids were found not to be in use, these lids are now used.

A tendency which has always existed in the disposal of nightsoil seems to be growing more evident. There is a definite method for the burial of nightsoil prescribed by regulation. This regulation sets a limit on the amount of nightsoil to be buried in each trench. Reports indicate that in many instances this limit is exceeded and that trenches are thereby overfilled, with the result that the surface soil becomes polluted, and provides a breeding ground for flies. This practice saves the contractor time and labour, but it should be strongly resisted by Local Authorities. At least one Local Authority now uses a mechanical trenching machine in its sanitary depot.

*Refuse Collection, Removal and Disposal.*—It is regretted that definite improvement cannot be reported in this essential service. Many Local Authorities do not realise that refuse disposal is more than affording householders an opportunity to be clean and tidy, and that it is an important means in preventing disease.

By providing an approved garbage can at each premises, the Local Authority is providing the householder with the means of denying rats access to waste food, of preventing flies from breeding in organic matter and of preventing mosquitoes breeding in receptacles which might hold water when exposed to the weather. Boxes and bags, when used to hold the refuse between the weekly removals, do not afford the same protection as the regulation refuse bin with close fitting lid.

In removing refuse each week to a disposal ground the Local Authority has the responsibility of seeing that it, in turn, does not provide rats, flies and mosquitoes with bigger and better breeding and feeding grounds. Incineration of all refuse, as practiced in two cities of this State—Ipswich and Toowoomba—is the safest method of disposal. But the capital outlay and maintenance costs are high and most Local Authorities depend on tipping refuse. If properly controlled, this method, as practiced in many parts of the world, can be reasonably good and has the advantage that it can be used to reclaim low lying waste lands. The refuse should be well compacted as it is tipped and is then covered with soil or other suitable covering material at the end of each day's tipping. Too often the refuse is tipped and allowed to remain uncovered until a bulldozer is next in the vicinity of the disposal ground.

*Plague Precautions.*—Although the last epidemic of plague in Queensland occurred many years ago and the Commonwealth Quarantine Service prevents the entry of plague

infected rats from outside the State, local authorities are responsible for the continuance of precautions against the spread of this disease. The principal means of prevention is the control of the rodent population. This is done by combining the destruction of these pests with denial of their food and shelter. Most local authorities exercise their responsibility in respect of the creation of rat harbourages in the erection of new buildings and also provide poison baits for rat destruction. On the coastal fringe, however, many local authorities employ men to trap and poison rats and mice as well as hunt them with dogs. The records of rats killed are used by local authorities to ascertain areas or premises where the rat population is increasing and thus enable them to take steps to remove the harbourage or feeding grounds.

To keep a watch for the presence of plague a percentage of the carcasses of rats destroyed in Brisbane is examined at the Laboratory of Microbiology and Pathology.

The following local authorities report weekly on the number of rodents killed in their area, and Table XXXIII. shows the results of their activities.

TABLE XXXIII.

Local Authority.				Rats.	Mice.
Brisbane	..	..	..	51,713	4,775
Bundaberg	..	..	..	661	..
Cairns	..	..	..	1,861	289
Gympie	..	..	..	355	..
Ipswich	..	..	..	928	67
Mackay	..	..	..	1,693	863
Maryborough	..	..	..	602	..
Rockhampton	..	..	..	3,458	..
Townsville	..	..	..	3,320	384
Total	..	..	..	64,591	6,378
Total all rodents				70,969	
Totals {				1953-54	79,401
				1954-55	74,071

*Mosquito Eradication.*—Many local authorities exercise some control over the breeding of mosquitoes within their areas. In areas where a health inspector is employed a serious effort to eliminate the vector of dengue fever and yellow fever can be made. *Aedes aegypti*, the species involved, is a domestic mosquito, breeding in fresh clean water such as found in tanks and other collections of rainwater. It is seldom found far from habitation. By screening rainwater tanks and oiling or removing other collections of rainwater close to dwellings this species should be easily controlled.

Another disease vector, *Culex fatigans*, is not so readily controlled. It breeds in foul water and travels considerable distances. However, by attention to house drainage and the treatment of street gully traps, the local authority can do much to reduce this pest, and reports indicate that many local authorities are facing this responsibility well.



The Government has continued the payment of 50 per cent. of the cost of permanent works for the eradication of mosquitoes. Table XXXIV. shows the amount of subsidy granted throughout the year.

TABLE XXXIV.  
SHOWING AMOUNTS OF SUBSIDY FOR  
MOSQUITO ERADICATION—1955-56.

Local Authority.	Amount Granted.
	£
Brisbane City Council .. ..	86,000
Cairns City Council .. ..	16,524
Ipswich City Council .. ..	11,834
Mackay City Council .. ..	2,064
Rockhampton City Council .. ..	5,000
Townsville City Council .. ..	4,000
Bowen Town Council .. ..	103
Redcliffe Town Council .. ..	500
Burrum Shire Council .. ..	775
Cardwell Shire Council .. ..	243
Cloncurry Shire Council .. ..	1,887
Johnstone Shire Council .. ..	2,000
Mulgrave Shire Council .. ..	500
Stanthorpe Shire Council .. ..	1,250
Total .. ..	132,680

*Camping Areas and Seaside Resorts.*—It is very pleasing to report that in this sphere there has been continued improvement. Crowds flock to our beaches over the holiday periods, and it is necessary that some control be exercised on the users of camping areas. Water supplies, the provision of sufficient sanitary conveniences and refuse bins, together with their maintenance, must be carefully supervised and the number of campers restricted to the facilities available. Most local authorities have recognised this and each year sees further improvements in practically all parts of the State.

*Water Samples.*—This department has continued to provide facilities for the chemical and bacteriological examinations of water for domestic purposes. This involves forwarding the necessary sampling bottles and the collection of the samples on arrival in Brisbane. To ensure, as far as possible, that there is no change in the bacteriological sample it has meant meeting aeroplanes, trains, and coaches at any hour of the day.

*Hotel Licensing.*—The inspection of premises licensed under the Liquor Acts and the submission of reports to the Commission has occupied a considerable amount of the time of our inspectors.

*Paint.*—One part of the Health Acts relating to the use of paint on buildings was repealed during the last session of Parliament.

Under the amending legislation the use of white lead in paint is now prohibited, and with the restrictions that are now placed on the use of paints containing any lead either on, in or about a house, there is a very limited use for paints containing lead. It has been necessary for manufacturers and distributors to make changes to meet the altered law. For the most

part this has been done successfully, but, inevitably there must be mistakes during a change-over and whenever these have been discovered the party responsible has readily co-operated.

However, the evils of the past persist and samples of paint scraped from older homes frequently showed more than the previously permitted 5 per cent. of soluble lead. In such cases a requisition from the Director-General has the desired effect and the offending paint is removed without resort to legal proceedings.

That the public is becoming more aware of the dangers associated with lead paint is shown by the number of samples submitted by owners and occupiers of homes who readily remove any offending paint should analysis show excess lead.

*Toys.*—Closely associated with the dangers of lead paint in homes is the danger to children of lead in toys. Because children put toys in the mouth the danger of ingesting lead from the metal in the toy or paint on it has to be guarded against. For that reason the Health Acts provide that no person shall sell any toy containing any lead or having on it any paint containing lead.

Samples of toys purchased on the retail market have been analysed. It has been found that an improvement has taken place. Toys, painted yellow and green, which previously contained lead, have been found lead free. In those instances where toys have failed to meet the requirements of law, they have been found to be imported, and the importer had usually been informed in writing that they were lead free. This is due to a misunderstanding of our requirements arising by comparison with English requirements which consider anything containing less than 5 per cent. of soluble lead to be lead free. When made aware of legal requirements distributors dispose of these stocks outside Queensland.

District Officers report as follows:—

*Toowoomba.*—The nightsoil and refuse removal services were maintained at a safe level throughout the district. The few faults found were reported for correction. The Dalby Town Council has embarked on an ambitious programme for the modernisation of its nightsoil disposal plant, including a pan washing and tarring machine. These mechanical aids—the first in the district—will be observed with interest.

The Goondiwindi Town Council has found it necessary to institute a small nightsoil removal service to cope with residential expansion beyond the sewered area of the town, and is effecting improvements in the methods of refuse disposal.

This council has suffered considerable damage in a succession of floods and the improvements are thus commendable. The flood-damaged sewerage system has been conducted with great difficulty.



Extension of the sewerage system is continuing in Toowoomba. The Stanthorpe Shire Council has obtained a preliminary estimate of the cost of sewerage Stanthorpe but has not so far made any decision.

Work was completed on the reticulation of water at Killarney during the year. The Dalby Town Council is making good progress with the duplication of the town water supply with potable water from sand beds adjoining the Condamine River.

Local Authorities have had many proposals approved for mosquito eradication subsidy, for the erection of public conveniences, and for the provision of camping areas, but progress is governed by the availability of loan funds.

*Rockhampton.*—Our officer reports that night-soil services in this area continued to be reasonably well maintained. Any faults, particularly in the disposal of nightsoil, were reported for attention by the Local Authority concerned.

Some improvement in one refuse tip is reported by the institution of controlled tipping. The practice of causing householders to place the refuse bin on the footpath for the collection of the refuse, has not ceased entirely.

In the City of Rockhampton the rodent control gang has continued its essential work, and now, in co-operation with inspectors, greatly assists in the permanent eradication of rat harbourages.

Where sewerage exists extensions have been made to meet the needs of the growing communities, and a number of Local Authorities are considering the possibility of installing sewerage schemes.

During the flood conditions in January and February our officers assisted Local Authorities in cleaning-up operations.

*Mackay.*—The conduct of nightsoil depots, generally has been good, there being one exception where the depot is unsuitable for the burial of nightsoil, because of the high level of ground water. The Local Authority concerned is seeking to improve disposal methods.

Refuse disposal shows no improvement. It is still the general practice to tip the refuse at the disposal site and leave it uncovered until a bulldozer is available.

One Local Authority has stock-piled materials for the installation of a sewerage system, but is experiencing difficulty in getting the work done. However, it has let contracts for the construction of treatment works and pumping stations.

As well as carrying out permanent works for the eradication of mosquitoes, various Local Authorities spray breeding grounds with larvacides to abate the nuisance these pests can become when present in the extremely large numbers possible in the wet season.

Progress of the water reticulation scheme at Proserpine is slow and it appears that it will be some time yet before reticulated water is available in the business sections of the town.

*Townsville.*—Close supervision maintained in all areas shows that sanitary services were conducted in a satisfactory manner, despite labour difficulties. In many areas native labour only is available.

Similar labour shortages make the conduct of refuse disposal depots difficult, but generally a good standard of refuse tips has been maintained.

The Townsville sewerage system has been extended and further extensions and improvements are under consideration. It is anticipated that the system at Mount Isa will be extended in the near future. Two other Local Authorities are expected to commence the installation of sewerage and another is considering sewerage in its area.

Mosquito eradication works of a permanent nature are being carried out by Local Authorities in the coastal part of the district and Local Authorities with inspectors enforce the Mosquito Prevention Regulations by regular inspections of premises. But the western shires have poor mosquito eradication and control measures.

*Cairns.*—The nightsoil removal services were for the most part satisfactorily performed. In the disposal of nightsoil it was frequently found, that trenches were too large, overfilled and insufficiently covered. Ground was reused too soon in some cases.

In two Local Authorities the defined sanitary area has been increased and new sanitary depots chosen.

Generally the refuse tips were not controlled satisfactorily, due to the usual lack of covering material for the refuse, except when a bulldozer is in the vicinity of the tip. One local Authority has fitted a pusher blade to a farm tractor, primarily for use in keeping the refuse tip in good condition.

Local Authorities are finding the cost of installation of sewerage is now very high, but advances were made during the year in preparation for the commencement of work on the sewerage of the City of Cairns.

Mosquito eradication works of a permanent nature are being undertaken by several Local Authorities.

Untreated water drawn from the Barron River for reticulation, is dangerous, particularly when rains swell the flow and pollution occurs from the many dairy farms on the watershed. One Local Authority plans to have the water clarified and chlorinated.

An outbreak of gastroenteritis at Thursday Island during the year made it necessary to pay particular attention to this area.

*Fluorine Survey.*—During the year opportunity was taken to increase our knowledge of the fluorine content of Queensland domestic waters by obtaining additional samples from various parts of the State. These figures should be a useful guide to various Local Authorities which contemplate fluoridation of their public water supplies.



SECTION OF HOOKWORM CONTROL.

GENERAL.

The staff responsible for hookworm control consists of a microscopist, a field inspector, and two sisters.

During the year the microscopist visited Bamaga and Cowal Creek Aboriginal Settlements, and Mapoon, Weipa, Aurukun Aboriginal Missions. All persons were examined and all received hookworm treatment with the exception of Weipa Mission where only four cases of hookworm were found.

From all areas 4,734 first specimens were examined, 1,201 were positive for hookworm. It was found that 211 specimens contained ova of *Enterobius vermicularis*, *Hymenolepis nana*, and *Trichostrongylus orientalis*.

The microscopist visited Thursday Island and commenced a hookworm survey. An officer from the Department of Native Affairs visited all the homes and the microscopist did the microscopical examinations. Arrangements were made with

the Medical Superintendent, Thursday Island Hospital, for all hookworm hosts found to be treated by the hospital. Several hookworm cultures were made of positive specimens from all areas, and the examinations showed that these were either *Ancylostoma duodenale* or *Necator americanus*.

A number of hookworm hosts were treated in the Cairns, Mossman, and Cooktown Hospitals. Owing to the high infestation rate of hookworm found at most of the aboriginal settlements and missions visited, all aboriginals should be mass treated for hookworm disease every six months.

Inspections of the sanitation and disposal methods at the Gulf aboriginal missions, revealed that they were unsatisfactory. When strict supervision is carried out at these places, and the sanitary conditions and disposal methods are brought up to a reasonable standard, the incidence of hookworm disease should be greatly reduced. Assurances have been given by all Superintendents, that every endeavour will be made to concentrate on hygiene.

TABLE XXXV.  
HOOKWORM.

SHOWING NUMBER OF PERSONS EXAMINED, AND RESULTS OF EXAMINATION AND TREATMENT—1955-1956.

Persons, Location.	Number Examined.	Number Positive.		Per cent. Positive.		Results of Treatment.		
		Hook-worm.	Other Worms.	Hook-worm.	Other Worms.	Cured.	Not Cured.	Unspecified.
A. WHITE POPULATION—								
Pre-School Children—				Per cent.	Per cent.			
Cairns .. .. .	59	1	2	1.6	3.3	..	1	..
Innisfail .. .. .	5	..	1	..	20	..	..	..
Ingham .. .. .	1	..	..	..	..	..	..	..
Mossman .. .. .	1	..	..	..	..	..	..	..
Daintree .. .. .	21	3	..	14.3	..	..	3	..
Cooktown .. .. .	4	..	..	..	..	..	..	..
Hopevale Mission ..	4	1	..	25	..	..	..	..
Thursday Island ..	129	..	2	..	1.5	..	..	..
Bamaga Settlement ..	2	..	..	..	..	..	..	..
Mapoon Mission ..	1	..	..	..	..	..	..	..
Aurukun Mission ..	1	..	..	..	..	..	..	..
Normanton.. .. .	2	..	..	..	..	..	..	..
School Children—								
Cairns .. .. .	967	..	63	..	6.5	..	..	..
Innisfail .. .. .	10	..	..	..	..	..	..	..
Mossman .. .. .	5	..	..	..	..	..	..	..
Daintree .. .. .	45	4	3	8.8	6.6	2	4	..
Cooktown .. .. .	1	..	..	..	..	..	..	..
Coen .. .. .	2	2	..	100	..	..	2	..
Thursday Island ..	282	10	3	3.5	1	..	..	9
Bamaga Settlement ..	2	..	..	..	..	..	..	..
Mapoon Mission ..	1	..	..	..	..	..	..	..
Other Persons—								
Cairns .. .. .	35	1	1	2.8	2.8	..	..	..
Innisfail .. .. .	7	..	..	..	..	..	..	..
Mossman .. .. .	22	..	..	..	..	..	..	..
Daintree .. .. .	89	8	..	8.9	..	2	10	..
Bloomfield .. .. .	2	..	..	..	..	..	..	..
Cooktown .. .. .	6	..	..	..	..	..	..	..
Hopevale Mission ..	11	1	..	9	..	1	1	..
Coen .. .. .	3	..	..	..	..	..	..	..
Thursday Island ..	347	6	3	1.7	0.8	..	..	6
Bamaga Settlement ..	6	..	..	..	..	..	..	..
Mapoon Mission ..	2	..	..	..	..	..	..	..
Weipa Mission ..	2	..	..	..	..	..	..	..
Aurukun Mission ..	5	..	..	..	..	..	..	..
	2,082	37	78	1.8	3.7	5	21	15



TABLE XXXV.—*continued.*HOOKWORM.—*continued.*SHOWING NUMBER OF PERSONS EXAMINED, AND RESULTS OF EXAMINATION AND TREATMENT—1955-1956.—*continued.*

Persons, Location.	Number Examined.	Number Positive.		Per cent. Positive.		Results of Treatment.		
		Hook-worm.	Other Worms.	Hook-worm.	Other Worms.	Cured.	Not Cured.	Unspecified.
B. ABORIGINAL POPULATION—								
Pre-School Children—								
Cairns .. ..	16	4	..	25	..	..	4	..
Mona Mona Mission ..	5	..	1	..	20	..	..	..
Mossman .. ..	45	28	2	62.2	4.4	1	30	..
Daintree .. ..	17	8	..	47	..	..	5	3
Cooktown .. ..	2	1	1	50	50	..	..	..
Hopevale Mission ..	32	17	10	53.4	31.2	6	22	..
Coen .. ..	2	..	..	..	..	..	..	..
Lockhart River Mission ..	24	19	6	79.1	25	..	12	..
Thursday Island ..	159	15	7	9.4	4.4	..	..	15
Red Island Point ..	10	..	..	..	..	..	..	..
Bamaga Settlement ..	41	10	..	24.3	..	..	..	10
Cowal Creek Settlement ..	20	7	1	35	5	..	..	7
Mapoon Mission ..	35	15	2	42.8	5.7	..	..	15
Weipa Mission ..	12	..	..	..	..	..	..	..
Aurukun Mission ..	48	41	3	85.4	6.2	..	..	41
School Children—								
Cairns .. ..	59	15	..	25.4	..	..	15	..
Mona Mona Mission ..	2	..	..	..	..	..	..	..
Mossman .. ..	19	15	1	78.9	5.2	..	14	..
Daintree .. ..	56	38	..	67.8	..	1	4	38
Cooktown .. ..	8	5	..	62.5	..	..	..	2
Hopevale Mission ..	55	23	10	41.8	18.1	9	33	..
Coen .. ..	4	..	..	..	..	..	..	..
Lockhart River Mission ..	36	24	4	66.6	11.1	1	22	..
Thursday Island ..	395	131	11	33.1	2.7	..	..	131
Red Island Point ..	22	9	2	40.9	9	..	..	9
Bamaga Settlement ..	57	48	2	84.2	3.5	..	..	48
Cowal Creek Settlement ..	40	36	7	90	17.5	..	..	36
Mapoon Mission ..	72	57	2	79.1	2.7	..	..	57
Weipa Mission ..	37	2	5	5.4	13.5	..	..	2
Aurukun Mission ..	106	97	10	91.5	9.4	..	..	97
Other Persons—								
Cairns .. ..	28	5	..	17.8	..	..	5	..
Yarrabah Mission ..	2	..	1	..	50	..	..	..
Mona Mona Mission ..	1	..	..	..	..	..	..	..
Mossman .. ..	25	12	..	48	..	4	14	..
Daintree .. ..	57	24	..	42.1	..	2	1	24
Cooktown .. ..	18	7	..	38.8	..	2	1	..
Hopevale Mission ..	47	11	7	23.4	14.8	17	18	..
Coen .. ..	3	1	..	33.3	..	..	1	..
Thursday Island ..	455	113	3	24.8	0.6	..	..	113
Red Island Point ..	35	14	..	40	..	..	..	14
Bamaga Settlement ..	86	53	2	61.6	2.3	..	..	53
Cowal Creek Settlement ..	89	69	3	77.5	3.3	..	..	69
Mapoon Mission ..	96	54	5	56.2	5.2	..	..	54
Weipa Mission ..	70	2	1	2.8	1.4	..	..	2
Aurukun Mission ..	204	134	24	65.6	11.7	..	..	134
	2,652	1,164	113	43.9	4.3	43	201	974

## DIVISION OF TUBERCULOSIS.

Director: E. W. ABRAHAMS, M.D., (Melb.), M.R.C.P., (Lond.).

Assistant-Director: CYRIL EVANS, M.B., B.S., D.T.M., M.R.C.P., (Lond.).

Chest Physician, Thursday Island: GEORGE HALES, M.B., Ch.B., T.D.D., (Wales).

Chest Physician, Cairns: THOS. G. PAXTON, M.D., (Lond.), M.R.C.P., (Lond.).

The work of the Chest Clinic during the past year has shown steady progress, particularly with regard to the establishment of centres for treatment and control outside Brisbane. The number of persons under clinic supervision is still increasing. These include notified and registered cases who attend for follow-up after sanatorium care, and people, not proved to have active tuberculosis, who have chest disease requiring X-ray and clinical supervision.

Though exact figures are not available it is the impression of the medical officers that an increased number of cases of cancer of the lungs has been seen.

## BUILDINGS.

Eight hundred and ten beds are now available for treatment of tuberculosis. (Table XXXVI). The present state of the building programme is as follows:—

*Brisbane Chest Hospital, Chermside.*—Assembly of the steel framework of the main block and nurses' quarters is complete and concrete work on the main block is well advanced. The pavilion wards and their surroundings continue to be most satisfactory.

*Thoracic Annexe, Cairns; Thoracic Annexe, Townsville.*—These are both in full use.

*Thoracic Annexe, Toowoomba.*—Construction is well advanced and should be complete by the end of 1956.

*Thoracic Annexe, Rockhampton.*—Excavation for foundations is complete and construction will commence shortly.

*Thursday Island, Waiben Sanatorium.*—Tenders for construction of the doctor's office, X-ray room and nurses' quarters have been let and work will commence shortly.

*Westwood Sanatorium.*—Completion of the nurses' quarters is now only a matter of a few weeks.

*Chest Clinic Brisbane.*—Extensions have reached the sketch plan stage. Congestion in the clinic is now most acute. It is difficult to find space for ordinary clinical procedures because of the encroachment of clerical staff on what was the waiting space and changing space of the clinic. Provision of further accommodation is essential.

The resignation of all members of the mobile X-ray unit, except the driver, underlines the difficulty of retaining staff for a unit which spends all its time in country travel.

*Mass Radiography.*—(Table XXXVII.) In addition to the Mobile X-ray Unit static X-ray plants are now in operation at the Chest Clinic and at Brisbane, Toowoomba, and Cairns General Hospitals. The Cairns unit was first used to X-ray a shipload of migrant cane cutters landing at that port.

During the year the Mobile X-ray Unit has taken less X-rays than last year. (Tables XXXVIII. and XXXIX.). A study of the centres visited shows that much of the year was spent in sparsely settled areas relatively unproductive from the point of view of numbers X-rayed and, in addition, a severe breakdown, necessitating a complete refit of the unit, took a good deal of time.

During this year, through the Social Services Department, Commonwealth Government pensioners have been circularised, and asked to attend for X-rays of the lungs at public hospitals. Exact figures are unobtainable as figures of requests made, and number of X-rays taken, are not available. However, X-rays showing 49 abnormalities, likely to be tuberculosis, have been submitted to the Chest Clinic and are under investigation. There can be no doubt that, as a measure of encouraging X-rays, particularly of older people this has been successful.

*Treatment.*—There have been no major innovations in treatment during the year. The use of antibiotics continues to increase and isoniazid is proving a very helpful drug. All cases are receiving drug treatment for longer periods than formerly in an attempt to reduce the number who relapse. No major new drugs have come under notice during the year.

*Notifications.*—(Tables XL. and XLII.) show a further decrease in keeping with the annual decrease since the peak year (1952) when 943 cases were recorded. This, it is hoped, reflects a true fall in the incidence of disease. A remarkable feature this year is the number of cases (21) discovered only by post-mortem examination. The case register continues to grow in numbers. (Table XLI.).

*Death Rate.*—(Table XLIV.) The sharp downward fall of death rate has apparently slowed, the number of deaths being almost the same as last year. Many of these are old people who may be said to die with, not of, tuberculosis. The number of deaths in young persons is now small, reflecting the efficiency of modern treatment measures.

*Prophylaxis.*—During this year, visiting tuberculosis sisters have been appointed to the Chest Clinics at Cairns, Townsville, and Rockhampton to initiate home visiting of contacts and the social aspects of tuberculosis control in the



districts adjoining. In addition, in co-operation with the School Health Services sisters, tuberculin testing of school children in Townsville, Rockhampton, and Toowoomba has been commenced. (Table XLVI.).

In the Torres Strait area, X-ray and tuberculin surveys of the Torres Strait islands have been commenced, a transportable X-ray unit, portable dark room and developing equipment being used. So far only a pilot survey of Coconut Island has been done to test equipment. Further islands are now being surveyed.

*Tuberculin Testing and B.C.G. Vaccination.*—Vaccination with B.C.G. vaccine of school leaving age children in Brisbane and the larger Queensland towns has permitted interesting comparisons of the levels of tuberculin reactors to be made. (Table XLVI.). The low rate at Toowoomba reflects, in all probability, the longer experience of this community in milk pasteurisation which became general there in 1940. This means that children of the school-leaving age (13-15) are less likely to have been given unpasteurised milk when young with consequent lower tuberculin rate than in Brisbane and Rockhampton.

Testing is being continued amongst National Service trainees, known contacts of cases of tuberculosis, hospital nursing and other staff, university students, teacher trainees and other groups, with B.C.G. vaccination of the negative reactors.

During the year, after an investigation into the relative efficiency of the two tests by Dr. Rathus, it has been decided to use the Heaf multiple puncture tuberculin test as the routine tuberculin test. This has the advantage of speed, painlessness for young children and combines less skill in its administration with greater ease of interpretation.

The B.C.G. complication rate (Table XLVII.) remains low except in young children.

*Bovine Tuberculosis.*—During this year an unusual finding was recorded—the occurrence of human pulmonary tuberculosis due to the bovine strain of M. tuberculosis, in seven cases.

This has been reported previously only twice in Australasia, once in Queensland and once in New Zealand. It has been shown that infection from animals may occur in abattoir employees, farmers, and others in close contact with cattle. The long term solution of the problem can only be the elimination of tuberculosis

from the cattle population of the State, a project already receiving the attention of the Department of Agriculture and Stock.

*Tuberculosis Allowances.*—The Commonwealth Government Tuberculosis Allowance for which the State Director is the Queensland referee continued during the past year. The number of allowances current (Table XLVIII.) is slightly less than last year when the figure was 807.

The withdrawal of the Tuberculosis Allowance is a most valuable disciplinary measure which can be brought to bear upon unco-operative patients and, though it is used rarely, usually persuades patients to continue treatment who would otherwise abandon it. The present rates of the Tuberculosis Allowance are:—

- Single person without dependants—£6 2s. 6d. weekly.
- Single person without dependants (in hospital)—£4 weekly.
- Married person with dependent wife (in or out of hospital)—£9 12s. 6d. weekly plus 10s. per child under 16 years.

There is no doubt that the provision of this allowance is a vital factor in enabling wage earners to stop work and have treatment so ensuring the removal of infectious persons from work places together with treatment of individuals. On the other hand Tuberculosis Allowances approximate to the basic wage and are a progressively less adequate substitute for the normal family income as it increases above the basic wage. Financial hardship, therefore, is still experienced, particularly by those patients in the middle income group who frequently have commitments and responsibilities up to their salaries.

TABLE XXXVI.

SHOWING NUMBER OF HOSPITAL BEDS EXCLUSIVELY AVAILABLE FOR TUBERCULOSIS PATIENTS.				
Chest Hospital, Chermside .. .. .	186			
South Brisbane Auxiliary Hospital ..	205			
Westwood Sanatorium .. .. .	75			
Townsville Thoracic Annexe .. .. .	60			
Cairns Thoracic Annexe .. .. .	50			
Thursday Island .. .. .	80			
Repatriation Hospitals—				
Greenslopes .. .. .	78			
Kenmore .. .. .	76			
Total ..	810			

TABLE XXXVII.

SHOWING NUMBER OF X-RAY EXAMINATIONS CARRIED OUT—1955-56.

Type of Film.						Chest Clinic.	Mobile Unit.	Brisbane Hospital.	Toowoomba Hospital.
Micro films .. .. .						53,023	22,725	18,278	4,661
Micro re-rays .. .. .						2,332	974	539	148
Other large films .. .. .						6,041	..	..	..
Total .. .. .						61,396	23,699	18,817	4,809
Active cases (sputum positive) .. .. .						172	32	63	3

TABLE XXXVIII.

SHOWING RESULTS OF MOBILE X-RAY UNIT SURVEY 1ST JANUARY, 1955, TO 31ST DECEMBER, 1955.

Locality.	Number of Micro Films Taken.	Number of Active Cases Found.	Number of Cases per 1,000 Micro Films.	Number of In- active Cases.	Old Cases Redis- covered.	Heart Lesion Noted.	Carcin- oma Noted.	Benign Tumour Noted.	Other Lung Con- ditions.	Bronchi- ectasis Noted.	Pneumo- coniosis Noted.	Under Invest- igation.
Tully .. .. .	1,750	..	..	5	..	..	..	..	5	..	..	1
Babinda .. .. .	1,210	3	2.5	7	..	..	..	..	1	..	..	..
Gordonvale .. .. .	1,344	2	1.44	10	..	..	..	..	..	..	..	..
Cairns .. .. .	10,320	9	.97	26	..	..	2	1	4	1	2	16
Atherton .. .. .	1,760	..	..	2	2	..	1	..	..	1	..	1
Mossman .. .. .	1,384	2	1.44	3	..	..	..	..	..	..	1	2
Mareeba .. .. .	2,426	2	.82	8	..	..	1	..	2	..	1	2
Herberton .. .. .	526	1	1.9	4	..	..	..	..	1	..	1	..
Ravenshoe .. .. .	885	2	2.26	..	..	..	..	..	1	1	..	3
Malanda .. .. .	1,063	..	..	1	1	..	..	1	..	1	..	..
Millaa Millaa .. .. .	520	..	..	..	..	..	..	..	1	..	..	..
Hughenden .. .. .	457	..	..	2	..	..	..	..	1	..	..	1
Richmond .. .. .	280	..	..	..	..	..	..	..	..	..	..	2
Julia Creek .. .. .	306	..	..	..	..	..	..	..	..	..	..	..
Cloncurry .. .. .	446	..	..	..	..	..	..	..	..	..	..	1
Mount Isa .. .. .	2,233	3	1.34	..	1	..	..	..	..	..	..	14
Mary Kathleen .. .. .	55	..	..	..	..	..	..	..	..	..	..	1
Goodna Mental Hospital..	3,000	8	2.66	2	10	..	..	..	3	1	..	23
Totals .. .. .	29,910	32	1.07	70	13	..	4	2	19	5	5	67

TABLE XXXIX.

SHOWING RESULTS OF MOBILE UNIT SURVEY IN CERTAIN QUEENSLAND CITIES AND TOWNS JANUARY, 1955, TO DECEMBER, 1955.

Town.	Population 30-6-55.	Estimated Population over 13 Years of age.	Number of Films Taken.	Towns in Order of Cases Found.
Tully .. .. .	2,808	2,000	1,750	Cairns .. .. . 9
Babinda .. .. .	1,641	1,170	1,210	Babinda .. .. . 3
Gordonvale .. .. .	1,989	1,415	1,344	Mount Isa .. .. . 3
Cairns .. .. .	21,400	15,240	10,320	Gordonvale .. .. . 2
Atherton .. .. .	2,680	1,800	1,760	Mossman .. .. . 2
Mossman .. .. .	1,461	1,040	1,384	Mareeba .. .. . 2
Mareeba .. .. .	3,369	2,400	2,426	Ravenshoe .. .. . 2
Herberton .. .. .	1,101	785	526	Herberton .. .. . 1
Ravenshoe .. .. .	1,264	900	885	Tully .. .. . ..
Malanda .. .. .	907	645	1,063	Atherton .. .. . ..
Millaa Millaa .. .. .	596	425	520	Malanda .. .. . ..
Hughenden .. .. .	1,772	1,260	457	Millaa Millaa .. .. . ..
Richmond .. .. .	806	575	280	Hughenden .. .. . ..
Julia Creek .. .. .	639	455	306	Richmond .. .. . ..
Cloncurry .. .. .	1,955	1,390	446	Julia Creek .. .. . ..
Mount Isa .. .. .	7,433	5,300	2,233	Cloncurry .. .. . ..
Mary Kathleen .. .. .	55	55	55	Mary Kathleen .. .. . ..
Total .. .. .	51,876	36,855	29,910	

TABLE XL.

SHOWING SOURCES OF NOTIFICATIONS OF TUBERCULOSIS, 1954-1955-1955-1956.

	1954-55.	1955-56.
Hospitals .. .. .	285	231
Chest Clinic .. .. .	221	235
Private Practitioners .. .. .	85	76
Death Certificates .. .. .	43	29
Sanatoria .. .. .	30	45
Repatriation Department .. .. .	29	38
Thursday Island Hospital .. .. .	22	9
Post Mortem .. .. .	6	21
Cherbourg Aboriginal Settlement .. .. .	4	..
Palm Island Aboriginal Settlement .. .. .	..	1
	725	685



TABLE XLI.

SHOWING INFORMATION FROM CASE REGISTER, 1955-56.

	Brisbane.			Country.			State.		
	M.	F.	P.	M.	F.	P.	M.	F.	P.
Notifications, 1955-56 ..	232	118	350	235	100	335	467	218	685
Cases on Register 1st July, 1955	1,181	676	1,857	1,142	646	1,788	2,323	1,322	3,645
On Register 30th June, 1956 ..	200	113	313	209	96	305	409	209	618
	1,381	789	2,170	1,351	742	2,093	2,732	1,531	4,263

M.—Males ; F.—Females ; P.—Persons.

TABLE XLII.

SHOWING BACTERIOLOGICAL STATUS OF PATIENTS WHEN NOTIFIED.

									Brisbane.	Country.	State.
Pulmonary—											
Positive—											
Smear .. .. .	..	..	..	..	..	..	..	..	51	77	128
Culture .. .. .	..	..	..	..	..	..	..	..	155	74	229
Animal Inoculation .. .. .	..	..	..	..	..	..	..	..	24	3	27
Negative—											
Smear .. .. .	..	..	..	..	..	..	..	..	15	36	51
Culture .. .. .	..	..	..	..	..	..	..	..	4	20	24
Animal Inoculation .. .. .	..	..	..	..	..	..	..	..	2	1	3
Not Stated—Results Pending, Death Notifications. .. ..									85	116	201
Total Pulmonary .. .. .									336	327	663
Non-Pulmonary—											
Positive .. .. .	..	..	..	..	..	..	..	..	5	2	7
Negative .. .. .	..	..	..	..	..	..	..	..	1	7	8
Not Stated .. .. .	..	..	..	..	..	..	..	..	5	2	7
Total Non-Pulmonary .. .. .									11	11	22
Total All Forms .. .. .									347	338	685

TABLE XLIII.

SHOWING DETAILS OF TUBERCULOSIS IN MIGRANTS, QUEENSLAND.

	British.			Non-British.			Total.		
	M.	F.	P.	M.	F.	F.	M.	F.	P.
Cases prior to 1st July, 1955 ..	74	39	113	105	55	160	179	94	273
Cases, 1st July, 1955, to 30th June, 1956 .. .. .	14	12	26	20	13	33	34	25	59
	88	51	139	125	68	193	213	119	332

Bates

1. Queensland total cases — Australian Population = 45 per 100,000 Australians.
2. Queensland Migrant cases — Australian Migrant Population = 35 per 100,000 migrants in Australia.
3. Queensland total cases — Queensland Population = 310 per 100,000 Queenslanders.

(These figures form the only available basis of comparison of the incidence of Tuberculosis among Post-war immigrants and Australians).

TABLE XLIV.

SHOWING NUMBER OF DEATHS FROM TUBERCULOSIS AND DEATH RATE FROM TUBERCULOSIS (PER 100,000 MEAN POPULATION), QUEENSLAND.

Year.	Deaths.	Death Rate.
1950 .. .. .	236	19·8
1951 .. .. .	226	18·4
1952 .. .. .	216	17·2
1953 .. .. .	162	12·6
1954 .. .. .	140	10·6
1955 .. .. .	137	10·2

TABLE XLV.

SHOWING NUMBER OF CASES ON REGISTER AND MORBIDITY RATE (PER 100,000 POPULATION), QUEENSLAND.

Year Ending.	Cases on Register.	Morbidity Rate.
30th June, 1952 ..	1,942	154
30th June, 1953 ..	2,569	198
30th June, 1954 ..	3,201	243
30th June, 1955 ..	3,746	279
30th June, 1956 ..	4,263	311

TABLE XLVI.

SHOWING TUBERCULIN TESTS AND B.C.G. VACCINATIONS, 1955-56.

	Tuberculin Tested.	Did not Return.		Positive.		Negative.		Given B.C.G.		Refused B.C.G.	
	No.	No.	Per-centage.	No.	Per-centage.	No.	Per-centage.	No.	Per-centage.	No.	Per-centage.
Chest Clinic .. ..	6,968	187	2·7	2,659	38·1	4,122	59·2	2,589	62·8	1,533	37·2
Schools .. .. .	5,098	110	2·2	1,179	23·1	3,809	74·7	3,703	97·2	106	2·8
National Service Trainees—											
Army .. .. .	2,553	..	..	812	31·4	1,741	68·6	1,741	100·0	..	..
R.A.A.F. .. ..	191	..	..	71	37·1	120	62·9	120	100·0	..	..
University Students ..	557	..	..	222	40·0	335	60·0	331	98·8	4	1·2
Teachers Training College .. ..	382	..	..	137	36·0	245	64·0	234	95·5	11	4·5
Country Schools											
School Health Services—											
Toowoomba and District .. ..	812	6	0·7	40	4·9	766	94·4	753	98·4	13	1·6
Rockhampton and District .. ..	583	8	1·3	135	23·2	440	75·5	435	98·8	3	1·2
Townsville and District .. ..	411	4	1·0	62	15·1	345	83·9	337	97·7	8	2·3
Totals .. .. .	17,555	315	1·8	5,317	30·2	11,923	68·0	10,243	85·9	1,680	14·1

TABLE XLVII.

SHOWING COMPLICATIONS, FOLLOWING B.C.G. VACCINATION AT CHEST CLINIC, BRISBANE, 1955-1956.

Age Group.	Given B.C.G. No.	Local Ulcer.		Glands.				Total Complications.	
				Closed.		Incised—Draining.			
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
0- 2 years .. .. .	260	Nil	Nil	2	0·77	5	1·9	7	2·69
3-14 years .. .. .	5,219	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Over 14 years .. ..	3,239	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Totals .. .. .	8,718	..	..	2	0·023	5	0·05	7	0·08

TABLE XLVIII.

SHOWING NUMBER OF TUBERCULOSIS ALLOWANCES BEING PAID IN QUEENSLAND, AT 30TH JUNE, 1956.

	Male.	Female.	Total.
Number accommodated in tuberculosis institutions .. .. .	267	107	374
Number not so accommodated .. .. .	256	128	384
Total on Allowance .. .. .	523	235	758



## DIVISION OF INDUSTRIAL MEDICINE.

Director of Industrial Medicine: DOUGLAS GORDON, M.B., B.S. (Q'ld.).

Inspector in Charge, Weil's Disease Control: J. M. KENNEDY, M.R.San.I.

During the past year the following matters have been dealt with by this Division:—

	1954-55	1955-56
(1) Reports submitted on industrial premises, industrial health hazards or to a less extent on administrative matters .. .. .	65	56
(2) Clinical reports, reports concerning laboratory investigations, &c., to medical practitioners, the Insurance Commissioner, &c. .. .. .	1,070	776
(3) Clinical examinations, other than regular routine ones .. .. .	187	156

Cessation of Northern Fever record keeping has reduced the number of clinical reports furnished very noticeably. The number of matters dealt with informally, however, has almost doubled and this is reflected in a reduction in official reports and in clinical examinations connected with official industrial surveys.

Approximately two hundred and twenty-seven other different problems or questions were dealt with by letter, telephone, or by interview.

### MENTION OF SOME MATTERS OF INTEREST WHICH RECEIVED ATTENTION.

Argon gas for welding—ozone and oxides of nitrogen.

Dust concentrations and air-conditioning in a cotton mill.

Phenothiazine dermatitis in manufacturing stock licks.

Carriage of uranium ore by sea and land.

Talc dust in a rubber works.

Ethyl bromide hazard in a flour mill.

Tuberculous infections in a Central Queensland meat-works.

Lime dust in a fertiliser works.

Dust from bulk loading of barley and wheat.

Skin lesions from handling Northern soft-woods.

Ventilation problem in the construction of an underground power house.

Chrome dermatitis and ultra-violet light hazard in a photographic department.

Boric acid used as a flux in bicycle manufacture.

### PAPERS AND LECTURES.

For the first time three special lectures were given to final year students in mining engineering. As well, the usual lectures were given to final year engineering students and to fourth year medical students. Six field days with the

latter were taken at the Ipswich Railway Workshops in November. Two post-graduate lectures were given on industrial medical subjects and a lecture to each of the following:—

Paddington Creche and Kindergarten

The Australian Society of Accountants.

A commentary was made for the Australian Broadcasting Commission on lead poisoning and chronic kidney damage resulting therefrom.

Several articles were written on the subject of pentachlorophenol poisoning for publication in "Fruit and Vegetable News." A meeting of farmers at Brookfield was addressed on the same subject.

### INDUSTRIAL TOXICOLOGY.

*Radioactivity.*—The first large scale uranium mining in this State is being pushed ahead at Mary Kathleen, near Cloncurry. By the end of the year several hundred men will be engaged on this project. These men will need regular examinations, and, in addition, the radioactivity in dust and in the ore will need to be controlled so that people engaged in this new industry suffer no ill-effects. A schedule for the protection of uranium miners has been drawn up by this Division, by the Department of Physics (University of Queensland) and by the Department of Mines. Health supervision of these workers is fairly costly and requires expensive equipment, but it can be expected that usage of radioactive substances will rapidly increase in Australia, and it is a legitimate function of a Health Department to ensure that they are used in such a way that no hazard exists either for those engaged in handling them or for the population of Queensland.

People do not understand radioactivity or its effects and panic reactions can easily be set up by irresponsible rumours of radioactivity in dust, or air or water. It is therefore highly desirable that this Department should develop facilities for measuring radioactivity of all kinds, so that the public can be quickly reassured when some published statement tends to cause alarm.

*Penta-chlor-phenol.*—In contrast to last year, when four deaths occurred, there was only one death after use of pentachlorophenol. This occurred in a youth shortly after using pentachlorophenol as a weedicide in pineapples. On this occasion the Government Analyst—slightly altering his previous analytical method and being given much larger samples of tissue—found grossly abnormal amounts of pentachlorophenol in all organs analysed.

The improved experience with this weedicide may, or may not, be due to the publicity given to its toxicity by the manufacturing trade, the



primary industries and this Department during the past year. At all events it is pleasing to note the decline in incidence of poisoning from this dangerous compound.

*Lead.*—An interesting and horrifying variant of the “normal” lead hazard that arises when oxy-cutting torches are used to cut up scrap metal, or weld on metal, which has been painted with a lead paint, was seen when an oxy-torch employing multiple “burners” was used to remove paint from iron work preparatory to re-painting it. Lead fume is not usually encountered by a painter, for his blow-lamp burns at too low a temperature to volatilise lead. His risk comes from lead dust breathed in when he scrapes the paint off. Use of an oxy-torch at extremely high temperatures at once converts what was a relatively mild lead dust hazard into an exceedingly dangerous lead fume hazard. It is hoped that this idea has been abandoned.

*Argon Welding.*—During the year complaints were received of recurring ill-health among men at one firm which had recently introduced argon welding. This was found to be a process which produces both oxides of nitrogen and ozone. There is some evidence that in conjunction these gases act as toxic synergists. Some of the welding was done inside aluminium coal skips in corners where the ventilation was not particularly good. A hose-line supply of fresh air to the welder’s helmet was recommended.

#### DUST.

*Grain Loading.*—The excessively heavy concentrations of dust experienced by wharf labourers trimming grain cargoes—especially where the loading and trimming is done by mechanical means—have been the subject of previous reports. The matter came to a head when a foreman stevedore over a period of two years’ exposure developed a type of allergic bronchitis whenever he became exposed to grain dust. These attacks gradually produced more and more disability.

Since the men doing mechanical trimming do not have to move around to any great extent, trial was made of a face helmet made of perspex to which air from a small compressor was supplied. The air is filtered through charcoal. This has proved satisfactory to the industry and is certainly an extremely efficient protection from heavy concentrations of dust.

*Mining and Factories.*—Officers of the Government Chemical Laboratory have done a good deal of dust counting during the year, both in mines and in factories. With one or two exceptions the counts have not exceeded ordinary acceptable limits of safety. Throughout the State dust hazards are at a minimum. However, there are, of course, quite a number of working places where dust, though not a hazard, is a discomfort and a bad nuisance. In this work our staff has been ably assisted by officers of the Department of Mines and the Department of Labour and Industry.

#### WEIL’S DISEASE CAMPAIGN.

The present problem in the Weil’s Disease campaign, the answer to which would influence future policy, is as follows:—Burning of cane—the chief and most contentious of present control methods—has not proved particularly efficient in preventing Weil’s Disease among cane-cutters, especially of late years in the Babinda mill area. The only alternative that would bring about efficient protection while cutting cane is to forbid the cutting of cane while soils remained wet and water-logged. This is a drastic measure, for in the main areas concerned it would cause the mills to shut down for substantial periods, bring confusion to the industry and throw cutters out of work. The preventive measures to prevent infection in the canefields are now under review.

For the first time for a number of years records of Northern Fever patients do not appear in this report. This Division has ceased to keep such records. They were originally started to help throw some light on the diagnoses of unknown fevers. When this problem for practical purposes was solved by the research work carried out by the Queensland Institute of Medical Research, the necessity for such records has, in the main, ceased to exist.

#### ACCIDENTS.

It is pleasing to record that a survey into the cause of accidents has now commenced. Through the courtesy of the Insurance Commissioner, State Government Insurance Office, sampling is being done in the first instance on records of accidents and disability obtainable from files of Workers’ Compensation claims. The results, which will be recorded on punch cards, will serve as a valuable basis for assessing the cause of industrial accidents and for indicating measures which may reduce their numbers.

### WEIL’S DISEASE CONTROL.

#### GENERAL.

The 1955 cane harvesting season commenced in late May and by mid June all sugar mills situated north of Townsville were actively functioning. The rainfall from January to June of that year was generally below average but was fairly continuous, so that no lengthy drying-out periods intervened. The season therefore opened with general extensive and heavy rat

harbourage, as weather conditions had prevented the cleaning-up of farms during the “slack” period between harvests.

Since it had been decided that, because of the very low incidence of leptospirosis recorded in the Herbert River district during recent years, intensive field inspection work was no longer necessary, the officer controlling that area was withdrawn and was attached to the Field



Station of the Queensland Institute of Medical Research at Innisfail. Arrangements for other districts remained unaltered with three officers under the Senior Inspector.

Control continued over the following mill areas:—Tully, South Johnstone, Goondi, Mourilyan, Babinda, Mulgrave, and Hambledon, with occasional visits as required to Mossman.

As the season progressed, a general build-up in the rodent population was noted, and rat damage to cane became extensive and harbourage prolific. In several mill areas, for the first time in many years real concern was expressed at the heavy economic loss involved in the resulting damage from heavy rat infestation in the cane fields. Unfortunately, there is a definite divergence of views as to the methods or even the usefulness of any rat control measures other than clean farming. Certainly over the years when more attention was given to poisoning measures, the previously recurrent years when rat infestation attained plague proportions were avoided. Prior to these measures this occurred every fourth or fifth year. The view now gaining ground that little or nothing can be done by way of control has bred a complacency which could be dangerous.

#### PEST BOARDS.

Pest Boards continued their rodent control activities during the year. With probably only three exceptions the measures taken were haphazard and irregular and merely fitted in between other duties considered more important.

A small increase may be noted in the number of baits used over the previous year, probably coincidental with the feverish activity displayed when mounting heavy rat damage became evident towards the end of last season.

December and January were fine and dry and much farm clearing and burning off was carried out during that period. Later on, however, heavy general rains and cyclonic weather caused extensive lodging of cane on river flats and low sections, while hot and humid conditions following the rains stimulated heavy growth of grass and weeds. This will retard the burning of cane and add to harvesting difficulties during the current season.

TABLE XLIX.  
CANE FIELD DATA.

Mill Areas.	Area Harvested.	Cane Crushed.	Total Cane Burned.		Burned under Health Regulations.	
			Acres.	Tons.	Acres.	Tons.
					(Including under 10 tons per acre)	
South Johnstone .. ..	13,491	344,791	13,410	342,622	1,076	24,641
Goondi .. ..	9,931	252,438	9,839	249,932	666	11,450
Mourilyan .. ..	10,249	248,692	10,239	248,393	140	3,201
Tully .. ..	13,775	372,232	13,736	371,191	2,363	59,088
Babinda .. ..	13,111	304,794	13,021	302,630	4,379	101,677
Mulgrave .. ..	12,215	290,232	12,159	288,897	9,399	220,263
Victoria .. ..	22,797	620,916	22,771	620,199	1,876	43,221
Macknade .. ..	14,082	365,525	14,080	365,437	312	2,092
Hambleton .. ..	12,212	259,470	12,194	258,995	3,445	51,675
Invicta (Ingham Line) ..	5,331	128,702	5,331	128,702	300	4,500
Totals .. ..	127,194	3,187,792	126,780	3,176,998	23,956	521,898

#### HARVESTING.

A very large turn-over of labour was recorded during the season. A large proportion of the field labour force was new migrants who in the main find great difficulty in settling down the first year and many do not return to the cane-fields. A special effort, meeting with some success, was and is being made by our staff to instruct new cutters in wearing suitable clothing in the field, the necessity for which is not generally appreciated, and to improve hygiene, particularly at barracks.

Industrial disputes were very numerous during the season but health considerations were seldom the issue. Over 23,000 acres, including cane under 10 tons per acre, were harvested, after burning at the special health rate (Table XLIX.). It should be stated here that fields carrying such a low tonnage almost invariably carry heavy rat harbourage, and consequently always some degree of infestation.

#### LOCAL AUTHORITIES.

Local Authorities generally effectively carried out their duties in rat control. This covered the supply of poison baits to householders and business premises as required, regular baiting of rubbish tips, river banks and foreshores, and premises, and other places likely to harbour vermin. Extensive burning off of roads and waste lands was actively carried out during December and January.

#### CONCLUSION.

In many instances a health inspector is called to a field not because the canecutters are worried about the risk of getting Weil's Disease but rather because they are aware that the health inspector can confer on them an economic benefit. This attitude is inevitable because leptospirosis seems to have become a milder infection in recent years. However, the increased rate payment is merely a means of stressing the shortcomings of growers and millers where they fail to do everything possible to reduce the rat menace. It is quite evident that unless direct financial loss is threatened or incurred, little or nothing will be done by growers in some areas.

TABLE L.  
INSPECTIONS.

Mill Areas.							Farms Inspected.	Fields Inspected.	Acres Inspected.	Fields Burned.	Canecutters signed on.
South Johnstone	..	..	..	..	..	..	414	476	3,484	119	411
Goondi	..	..	..	..	..	..	298	323	2,852	64	629
Mourilyan	..	..	..	..	..	..	12	32	227	23	294
Tully	..	..	..	..	..	..	885	891	6,499	449	452
Babinda	..	..	..	..	..	..	526	732	5,519	377	726
Mulgrave	..	..	..	..	..	..	68	71	572	47	593
Victoria	..	..	..	..	..	..	178	179	1,774	2	693
Macknade	..	..	..	..	..	..	139	139	1,210	5	459
Hambledon	..	..	..	..	..	..	21	24	288	1	716
Invicta (Ingham Line)	..	..	..	..	..	..	65	67	530	3	100
Totals	..	..	..	..	..	..	2,606	2,934	22,955	1,090	5,073

TABLE LI.  
BAITS DISTRIBUTED BY MILL PEST BOARDS FOR RODENT DESTRUCTION.  
NUMBER AND TYPE.

Mill Areas.							Phosphorus (Bread).	Thallium Sulphate (Wheat).	Other.
South Johnstone	..	..	..	..	..	..	75,000	1,307,000	..
Goondi	..	..	..	..	..	..	..	1,580,000	10 lbs. Phos. syrup
Mourilyan	..	..	..	..	..	..	1,200,000	4,784,000	..
Tully	..	..	..	..	..	..	40,000	400,000	..
Babinda	..	..	..	..	..	..	3,000,000	810,000	..
Mulgrave	..	..	..	..	..	..	172,400	1,275,520	..
Victoria	..	..	..	..	..	..	..	2,350,000	..
Macknade	..	..	..	..	..	..	..	1,862,375	..
Hambledon	..	..	..	..	..	..	..	1,219,840	..
Mossman	..	..	..	..	..	..	400,000	800,000	..
Invicta (Ingham Line)	..	..	..	..	..	..	..	143,360	..
Totals	..	..	..	..	..	..	4,887,488	16,532,095	..

TABLE LII.  
FEVER CASES ALL AREAS—OCCUPATION AND TYPE.  
FIELDS INVESTIGATED—79.

Occupations.				Leptospirosis.	Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.
Canecutters	..	..	..	26	..	..	..	..	14
Timberworkers	..	..	..	..	..	..	..	..	1
Farmers	..	..	..	5	..	..	..	..	8
Mill, L.A. and tramway employees	..	..	..	1	..	..	..	..	3
Farm labourers	..	..	..	2	..	..	..	..	4
Women	..	..	..	1	..	..	..	..	2
Children	..	..	..	..	..	..	..	..	6
Others	..	..	..	2	..	..	..	..	4
Totals	..	..	..	37	..	..	..	..	42

The above table refers to investigations made during the months of July and August only, 1955, when this phase of work was discontinued.

TABLE LIII.  
OCCUPATION AND DISTRICT INCIDENCE.

Occupations.				Mossman.	Babinda.	Innisfail.	Tully.	Ingham.	Total.
Canecutters	..	..	..	..	10	27	3	..	40
Farmers	..	..	..	1	4	4	2	2	13
Farm Labourers	..	..	..	..	1	3	1	..	5
Mill Workers	..	..	..	..	1	1	..	1	3
Council Workers	..	..	..	..	..	2	2	..	4
General Labourers	..	..	..	..	..	..	1	..	1
Housewives	..	..	..	..	..	2	1	..	3
Children	..	..	..	..	2	5	..	..	7
Carpenters	..	..	..	..	1	..	..	..	1
Stockmen	..	..	..	..	..	..	1	..	1
Timbercutters	..	..	..	..	..	..	..	1	1
Totals	..	..	..	1	19	44	11	4	79



## DIVISION OF MATERNAL AND CHILD WELFARE.

Director: H. C. MURPHY, M.B., B.S.

Deputy Director: PAMELA JACKSON, M.B., B.S.

Part-time Pre-school Child Health Officer: A. E. PATERSON, M.B., Ch.M.

Acting Superintendent: A. JENKINSON, A.T.N.A.

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A notable decline in infantile and in maternal mortality is shown in this year's record figures. The infantile mortality rate is 20·3 per thousand live births and the maternal mortality rate 0·62 per thousand live births. These figures are comparable with the best figures obtained in any other part of the world. A comparison between the present figures and those of ten years ago show that the infantile mortality rate has improved from 29·76 to 20·3 and the maternal mortality rate from 2·47 to 0·62.

The same cannot be said, however, of the accidental deaths in the 1 to 14 year group, there being nine more deaths from accident than in the previous year, with road accidents and drowning predominating.

### THE YEAR'S WORK.

There are now 227 centres and sub-centres in the State, 59 being in the metropolitan area and 168 in the country.

The following new sub-centres were opened during the year:—

- (1) Inala on 23rd September, 1955, serviced from Herschell Street;
- (2) West Stafford on 15th February, 1956, serviced from Fortitude Valley;
- (3) Tewantin on 14th March, 1956, serviced from Gympie;
- (4) Gulliver on 21st March, 1956, serviced from Townsville;
- (5) Bald Hills on 4th April, 1956, serviced from Sandgate.

Approval has been given for the establishment of a sub-centre at Ilfracombe in the Longreach area, and at Chelmer in the metropolitan area.

Two sub-centres in the Mount Morgan district, Baree and Red Hill, were closed during the year, owing to poor attendance; Mount Morgan, reverting to a sub-centre, is now visited from Rockhampton. Somerset Dam, which was functioning for ten months of the last year, was closed in April, 1955, as the families on the construction work had all left the area.

The total attendances for the year were 401,828, which is the highest ever recorded and is an increase of 31,148 on the attendances of the previous year.

The attendance for the year can be considered very satisfactory in view of the fact that, besides having a metropolitan bus strike in December, weather conditions have been extremely bad, the year being one of the wettest on record. Flooded conditions existed in the greater part of the State in January and February. A very severe cyclone occurred on 6th and 7th March affecting mainly Proserpine, Mackay, Bowen, Ayr, Townsville, Ingham, and Cairns. Flooded conditions continued throughout March affecting Mackay, Townsville, Cunnamulla, and Goondiwindi. The town of Goondiwindi was flooded five times since January.

### STAFF.

The total number of nursing staff is 140, of which 61 are on the permanent staff and 79 on the temporary staff. Two senior permanent members have resigned. One senior member is on extended leave, another senior member is on indefinite sick leave.

Eleven sisters were appointed to the permanent staff on probation in September, 1955. One of these has since resigned to get married.

This shows an increase of eight on the permanent staff since June, 1955. This is more encouraging but the staff position, as a whole, is not satisfactory and will not be so until all senior positions and most other positions are held by permanent members.

As this service controls 227 centres, 6 homes, and 5 special services, the majority of which are spread over the State, the maintenance and control of the staff presents many problems and difficulties which do not have to be dealt with and overcome in the maintenance and control



of other nursing services. This year the staff has had to contend with bad weather conditions and it must be recorded with gratitude that they have proved their sincerity in the service to the mothers and babies of the State and that their efforts have shown a very pleasing result in the year's work.

## VITAL STATISTICS.

### BIRTHS.

During the year 1955, 32,352 births were registered, an increase of 1,176 over the previous year. There were 16,701 males and 15,651 females born, giving a masculinity rate of 106·7. The natural increase of 21,045 was equal to 1·59 per cent. of the population, compared with 1·53 in 1954. The birth rate for 1955 was 24·2 per 1,000 mean population, compared with 23·7 in 1954.

### MARRIAGES.

Registrations of marriages in 1955 numbered 10,098, giving a marriage rate of 7·5 per 1,000 mean population, compared with 7·6 in the previous year. Minors married numbered 4,463, comprising 806 males and 3,657 females.

### DEATHS.

#### *Maternal.*

The maternal mortality rate of 0·62 per 1,000 live births was the lowest ever experienced in Queensland, the previous lowest being 0·71 in 1953. There were 20 deaths during the year caused by diseases and accidents of pregnancy and childbirth. Of these, 11 followed childbirth and 5 were due to diseases and accidents of pregnancy (excluding four abortions with sepsis). The causes of the 11 deaths due to diseases and accidents of childbirth were as follows:—

Other accidents of childbirth, including Caesarian section .. .. .	3
Delivery complicated by retained placenta	3
Disproportion and malposition of foetus	2
Haemorrhage of childbirth and puerperium	1
Puerperal pulmonary embolism .. ..	1
Other forms of puerperal toxæmia ..	1

The causes of the 5 deaths due to diseases and accidents of pregnancy were as follows:—

Toxæmias of pregnancy .. .. .	2
Ectopic pregnancy .. .. .	1
Infection of Genito-urinary tract during pregnancy .. .. .	1
Other complications of pregnancy ..	1

#### *Infantile Mortality.*

Deaths of infants aged under one year numbered 656, comprising 380 males and 276 females, compared with 695 in 1954. The infantile mortality rate of 20·3 deaths per 1,000 live births was the lowest annual rate ever recorded in Queensland. In the metropolitan area the rate fell from 18·9 in 1954 to 18·4, the lowest on record. The sub-tropical (non-metropolitan) area rate fell from 23·8 in 1954

to 21·3 in 1955, while the tropical area recorded the greatest fall by registering a rate of 21·3 compared with 24·6 in 1954.

#### *Deaths of Children Aged One Year and Under Five Years.*

(a) Deaths of children, aged one year and under two years during the year 1955 numbered 87, representing a death rate of approximately 2·9 per 1,000 children in that age group.

The chief causes of death were:—

Accidents .. .. .	20
Pneumonia—	
Bronchopneumonia .. .. .	8
Lobar Pneumonia .. .. .	3
Other Unspecified .. .. .	3
Gastroenteritis and Colitis .. ..	18
Congenital Malformations .. ..	8
Encephalitis and Myelitis .. ..	3

Of the 20 deaths (15 males, 5 females) due to accidents, one was caused by burns and scalds, three by drowning, four by accidental poisoning, one by traffic accidents, three by motor-vehicle (non-traffic) accidents, one by machinery, two by electricity, two by choking (food), one by suffocation in bed, one by an animal, and one cause was not stated.

Of the four deaths due to accidental poisoning, one was caused by aspirin, one by petroleum products, one by corrosives, and one by strychnine.

(b) Deaths of children between two and under five years during the year numbered 106, representing a death rate of approximately 1·18 per 1,000 children in that age group.

The chief causes of death were:—

Accidents .. .. .	24
Congenital Malformations .. ..	12
Malignant Neoplasms .. .. .	11
Meningococcal Infections .. ..	7
Gastroenteritis and Colitis .. ..	6
Pneumonia (all kinds) .. .. .	5
Nephritis and nephrosis .. .. .	4
Bronchitis .. .. .	1
Tetanus .. .. .	1

Of the 24 deaths due to accidents, eight were caused by motor traffic accidents, six by drowning, two by burns and scalds, two by poisoning, two by motor-vehicle (non-traffic) accident, two by fire and explosion, one by suffocation, and one cause was not stated.

#### *Accidental Deaths of Children Between One and Fourteen Years.*

Accidental deaths of children in this age group numbered 94 in 1955, compared with 85 in 1954, and an average of 89 in the six years 1950 to 1955, inclusive. The total deaths of children in this age group from all causes were 322, of which 29 per cent. were caused by accident.





Interior of Cairns Centre,



New Centre at Cairns, Northern Queensland.







TABLE LIV.

CAUSES OF DEATHS IN INFANTS UNDER ONE YEAR—QUEENSLAND, 1955.

Cause.	1954.	1955.				Increase or Decrease.
		Metropolitan.	Sub-Tropical. (a)	Tropical.	Total.	
Immaturity (unqualified) .. .. .	185	41	67	29	137	141 — 47
Immaturity with mention of any other sub- sidiary condition .. .. .	3	3	1	..	4	
Congenital Malformations .. .. .	121	47	57	24	128	
Post-natal Asphyxia and Atelectasis .. ..	67	26	28	12	66	
Intracranial and spinal injury at birth .. ..	71	18	24	24	66	
Other birth injury .. .. .	37	11	15	17	43	+ 6
Pneumonia of newborn .. .. .	19	5	10	7	22	+ 3
Haemolytic disease of newborn(Erythroblastosis)	12	11	6	6	23	+11
Neo-natal disorders arising from Maternal Toxaemia .. .. .	23	5	4	5	14	— 9
Haemorrhagic disease of newborn .. .. .	16	3	4	..	7	— 9
Diarrhoea of newborn .. .. .	5	..	..	1	1	— 4
Other diseases peculiar to early infancy ..	14	1	9	5	15	+ 1
Total Diseases of early infancy ..	573	171	225	130	526	— 47
Gastroenteritis and Colitis .. .. .	24	3	8	10	21	— 3
Bronchopneumonia, other and unspecified Pneumonia .. .. .	18	11	7	10	28	+10
Lobar Pneumonia.. .. .	6	2	3	3	8	+ 2
Whooping cough .. .. .	2	..	..	..	..	— 2
Diphtheria.. .. .	..	1	..	..	1	+ 1
All other causes .. .. .	72	20	34	18	72	..
Total Deaths under 1 year .. ..	695	208	277	171	656	— 39

(a) Excluding Metropolitan.

TABLE LV.

CAUSES OF DEATHS IN INFANTS MORE THAN ONE MONTH, BUT LESS THAN TWELVE MONTHS OF AGE—  
QUEENSLAND, 1955.

Cause.	1954.	1955.				Increase or Decrease.
		Metro- politan.	Sub-Tropical. (a)	Tropical.	Total.	
Immaturity with mention of any other sub- sidiary condition .. .. .	..	1	1	..	2	+ 2
Congenital Malformations .. .. .	53	20	27	12	59	+ 6
Post-natal Asphyxia and Atelectasis .. ..	1	..	..	1	1	..
Other Birth Injury .. .. .	..	..	1	..	1	+ 1
Haemolytic disease of newborn .. .. .	..	1	..	..	1	+ 1
Other diseases peculiar to early infancy ..	8	..	2	..	2	— 6
Total Pre-natal Causes .. ..	62	22	31	13	66	+ 4
Bronchopneumonia, other and unspecified pneu- monia .. .. .	18	11	7	10	28	+10
Gastroenteritis and Colitis .. .. .	24	3	8	10	21	— 3
Whooping Cough .. .. .	2	..	..	..	..	— 2
Lobar Pneumonia .. .. .	6	2	3	3	8	+ 2
Diphtheria .. .. .	..	1	..	..	1	+ 1
All other causes .. .. .	59	16	29	7	52	— 7
Total Deaths 4 weeks and under 1 year	171	55	78	43	176	+ 5

(a) Excluding Metropolitan.

TABLE LVI.

CAUSES OF DEATHS IN INFANTS UNDER ONE MONTH OF AGE—QUEENSLAND, 1955.

Cause.	1954.	1955.				Increase or Decrease.
		Metropolitan.	Sub-Tropical. (a)	Tropical.	Total.	
Immaturity (unqualified) .. .. .	184	41	67	29	137	139 -48
Immaturity with mention of any other subsidiary condition .. .. .	3	2	..	..	2	
Post-natal Asphyxia and Atelectasis .. ..	66	26	28	11	65	- 1
Congenital Malformations .. .. .	68	27	30	12	69	+ 1
Intracranial and Spinal injury at birth .. ..	71	18	24	24	66	- 5
Other birth injury .. .. .	37	11	14	17	42	+ 5
Pneumonia of newborn .. .. .	19	5	10	7	22	+ 3
Haemolytic diseases of newborn (Erythroblastosis) .. .. .	12	10	6	6	22	+10
Neo-natal disorders arising from Maternal Toxaemia .. .. .	23	5	4	5	14	- 9
Haemorrhagic disease of newborn .. .. .	16	3	4	..	7	- 9
Diarrhoea of newborn .. .. .	5	..	..	1	1	- 4
Other diseases peculiar to early infancy ..	7	1	7	5	13	+ 6
Total Pre-natal Causes .. .. .	511	149	194	117	460	-51
All other Causes .. .. .	13	4	5	11	20	+ 7
Totals .. .. .	524	153	199	128	480	-44

(a) Excluding Metropolitan.

TABLE LVII.

CAUSES OF DEATHS OF PREMATURE (IMMATURE) INFANTS.

	1953.	1954.	1955.
Immaturity unqualified .. .. .	145	185	137
Ill-defined diseases peculiar to early infancy, with immaturity .. .. .	11	8	10
Post-natal Asphyxia and Atelectasis, with immaturity .. .. .	40	33	40
Intracranial and Spinal injury at birth, with immaturity .. .. .	13	10	13
Other birth injury, with immaturity .. .. .	21	22	31
Neo-natal disorders arising from Maternal Toxaemia, with immaturity .. ..	23	20	14
Pneumonia of newborn, with immaturity .. .. .	7	9	8
Haemorrhagic diseases of newborn, with immaturity .. .. .	2	2	..
Erythroblastosis, without mention of nervous affection but with immaturity ..	10	..	6
Nutritional Maladjustment, with immaturity .. .. .	1	..	..
Immaturity with mention of any other subsidiary condition .. .. .	7	3	4
Umbilical Sepsis, with immaturity .. .. .	1	..	..
Other Sepsis of newborn .. .. .	1	..	..
Diarrhoea of the newborn .. .. .	..	2	..
Totals .. .. .	282	294	263
Total under one year .. .. .	282	294	263
Total under one month .. .. .	278	292	259

TABLE LVIII.

ACCIDENTAL DEATHS OF CHILDREN (AGED 1-14 YEARS) IN QUEENSLAND.

—	1950.		1951.		1952.		1953.		1954.		1955.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Road Accidents .. .. .	9	9	13	16	15	10	15	9	18	11	14	10	149
Firearms .. .. .	..	..	7	..	1	1	3	1	5	..	2	..	20
Drowning .. .. .	19	7	16	7	10	7	12	4	10	4	17	1	114
Falls .. .. .	4	1	2	..	2	1	3	2	3	..	1	..	19
Other Accidents .. .. .	17	11	21	16	29	12	22	19	21	13	28	21	230
	49	28	59	39	57	31	55	35	57	28	62	32	532
Totals .. .. .	77		98		88		90		85		94		532

In 1955, twenty-four deaths in this age group were caused by road accidents, 14 males and 10 females. The total number of deaths was 94—9 more than the previous year—and the ratio of males to females was 2: 1.



TABLE LIX.  
BIRTHS AT BRISBANE WOMEN'S HOSPITAL, 1955.

Brisbane Women's Hospital.	Live Births.			Premature Births.			Percentage Premature Births to Live Births.			Deaths of Premature Infants.			Percentage Mortality of Premature Infants.		
	1953.	1954.	1955.	1953.	1954.	1955.	1953.	1954.	1955.	1953.	1954.	1955.	1953.	1954.	1955.
Public Hospital ..	3,471	3,726	4,064	204	210	239	5.9	5.6	5.9	17	19	34	8.3	9.0	14.2
Intermediate ..	6,500	6,435	7,094	297	236	267	4.6	3.6	3.8	24	25	25	11.4	10.6	9.4
Totals ..	9,971	10,161	11,158	501	446	506	5.55	4.5	4.5	51	44	59	10.2	10.0	11.6

The increased mortality rate at the Public Hospital is partly explained by the fact that in some cases mothers have had no ante-natal supervision and have arrived in hospital suffering from ante-partum haemorrhages, toxæmias, or some other complication of pregnancy.

TOUR OF INSPECTION.

In August, September, and October, the Director made a tour of inspection of country centres and visited the following centres, sub-centres, and homes:—Nambour, Gympie, Maryborough, Gayndah, Murgon, Kingaroy, Ipswich Home, Toowoomba Home and Centre, Rockhampton Home and Centre, Warwick, Goondiwindi, Gladstone, Biloela, Bundaberg, Mackay, Bowen, Muroona, Cairns, Innisfail, Ingham, Palm Island, Townsville and sub-centres, Charters Towers, Hughenden, Mount Isa, Ayr and sub-centres, and Charleville.

Most of the centres were functioning satisfactorily and all the staff showed a keen interest in their work. Accommodation was satisfactory in all centres visited with the exception of Gayndah and Emerald. Attempts were made to secure more suitable accommodation at Gayndah but so far these have been unsuccessful. An area of land in Emerald which is to be resumed for maternal and child welfare building purposes was inspected. Building sites were also inspected at Ayr, Gladstone, and Charleville. At Innisfail arrangements were made with the Shire Council to temporarily accommodate the centre at the library building until a new centre is built. Mighell's Building, in which the centre was previously accommodated having been sold, it was necessary to secure other accommodation, and, with the co-operation of the Shire Council, the centre was moved to the library building, which is owned by the Council. New clinic buildings at Cairns and Mount Isa were visited. The Cairns building is a very modern one and is more centrally situated.

At Mount Isa the new centre which was built by Mount Isa Mines Limited was officially opened by the Director on behalf of the Honourable the Minister.

ST. PAUL'S TERRACE HOME, BRISBANE.

During the year, 216 babies and 111 mothers were admitted to the home, the daily average being 13.23 babies and 4.74 mothers.

Babies were admitted from the following centres:—Burleigh Heads, Bell, Nambour, Wallumbilla, Eumundi, Nerang, Woombye, Ipswich, Gumdale, Rosewood, Wallangarra, Southport, Cracow, and Biloela.

There was an unusual number of babies with cleft palate and hare lip—13 with both, 2 with hare lip only, and 3 with cleft palate only.

Other conditions in babies admitted included meningo-myelocoele (transferred to hospital and successfully operated upon), mongolism, congenital heart conditions, and sudden weaning owing to the mothers' illness.

ST. PAUL'S TERRACE TRAINING SCHOOL.

In July, 1955, Mr. T. Rasey, M.L.A., presented certificates to twenty-three successful candidates. Mr. Rasey again presided at the graduation ceremony in January, 1956, and presented thirty-two trainees with their certificates.

CLAYFIELD HOME, BRISBANE.

Two hundred and five babies and 80 mothers were admitted during the year, the daily average being 14.33 babies and 4.52 mothers.

Babies with cleft palate and hare lip, congenital heart conditions, pink disease, spasticity, mental retardation, over-stimulation, and lethargic babies were cared for and their feeding adjusted. Several sets of twins were admitted. A number of artificially fed infants whose mothers were suffering from mental illness were admitted for feeding management.

In addition to babies from the metropolitan areas, babies were also admitted from the following places, Burleigh Heads, Coolangatta, Southport, Caloundra, Darra, Dayboro, Lowood, Ipswich, Toowoomba, Dalby, Texas, Mount Isa, Howard, Emerald, Longreach, Cooroy, and Bundaberg.

CLAYFIELD HOME TRAINING SCHOOL.

Nine trainees gained their certificates and at the subsequent graduation in December, 1955, the certificates were presented by Mr. T. Rasey, M.L.A. Seven candidates were successful in April and were presented with their certificates by the Director at the combined Ipswich and Clayfield Graduation Ceremony at Centaur House.

TOOWOOMBA HOME.

Fifty-seven mothers and 133 babies were admitted during the year from Toowoomba and surrounding districts, Goondiwindi, Condamine, Chinchilla, Dalby, Warwick, Killarney, and Stanthorpe. Among the babies admitted were a number of very frail and premature babies, one set of triplets, twins, three mongols, three



babies with congenital heart disease, under-nourished babies and babies with feeding problems.

During the year several alterations were made to the home and staff quarters—a door connecting the two nurseries has been provided, the staff verandah and passageway has been covered in, a hydro-extractor has been provided for the laundry, and a large storage tank erected. The grounds and garden have been maintained in good condition.

#### TOOWOOMBA HOME TRAINING SCHOOL.

Fourteen child Welfare assistants commenced their training. Two withdrew after several weeks, and the remaining twelve passed their examination. Graduation ceremonies were held in November and April, the certificates being presented by the Deputy Premier, The Hon. J. E. Duggan, and Mr. L. Wood, M.L.A.

#### ROCKHAMPTON HOME.

Eighty-seven babies and 43 mothers were admitted during the year, the daily average being 7·86 babies and 2·20 mothers.

Four sets of twins were admitted as well as a case of cystic fibrosis of the pancreas, one ruminator, one case of pink disease, two of pylorospasm, and two mongols, one with a cleft palate, the other with a cleft palate and hare lip.

Babies were admitted from Rockhampton and surrounding districts, including Longreach, Barealdine, Blackall, Emerald, Springsure, Alpha, Gladstone, Isisford, Mackay, Dululu, Mount Morgan, and Yeppoon.

#### ROCKHAMPTON HOME TRAINING SCHOOL.

Eight trainees were examined during the year, four in December, 1955, and four in May, 1956. Six of the trainees were successful. Graduation ceremonies were held in December, 1955, and May, 1956, when certificates were presented to them. In December, Mr. Cooper, M.L.A., presented the certificates, and Dr. Loseher in May.

#### THE JEFFERIS TURNER HOME, IPSWICH.

Ninety-one babies and 64 mothers were admitted during the year. The daily average was 3·48 mothers and 6·42 babies. Babies were admitted from Ipswich and suburbs, Rosewood, Laidley, Kalbar, Lowood, Haigslea, and Brisbane.

Babies included 31 premature babies (21 of whom were under 5 pounds on admission and the remaining 10 under 6 pounds), four sets of twins, three sets being in residence at the same time, one baby with hare lip and cleft palate, one with pyloric stenosis, one with a congenital heart lesion, one who had haemetemesis three days after birth, three breast fed babies who were found subsequently to be sub-normal, and one four months' old artificially fed infant who was transferred to the Brisbane Children's Hospital, and diagnosed as suffering from tuberculosis. This child's mother was in the Chermiside Chest Hospital at the same time. One artificially fed

infant referred for feeding difficulties was transferred to hospital where he subsequently died from a mastoid infection. Most of the premature babies were tube fed prior to admission and consequently their feeding has been difficult.

#### JEFFERIS TURNER TRAINING SCHOOL.

Eight Child Welfare Assistants were prepared for examination during the year and all were successful. Graduation ceremonies were held in December, 1955, at the Ipswich Home, the certificates being presented by Mr. J. Donald, M. L. A., and in April, 1956, in conjunction with the Clayfield Home at Centaur House.

#### SANDGATE HOME.

Six hundred and fifty children were admitted to the home during the year, the average number of days in residence being 25·87, and the daily average 45·9.

Thirty children were sent to hospital, six returning to the home, the remainder being discharged to their own homes from hospital.

Owing to an epidemic of chicken pox and mumps in July, 1955, the home was closed to admissions until all contacts had been discharged. Twelve children were sent to hospital during this epidemic. Five children were sent to hospital in March with gastro-enteritis, the infection having been brought into the home by two children of one family and these two children were transferred to hospital.

Throughout the year older children have been attending the State school, an average of 15 attending daily. Owing to the very wet season this year, the children have had to spend a great deal of time indoors and the new recreation rooms and equipment were a great boon. New playground equipment has been provided.

#### SANDGATE HOME—BABY WARD.

One hundred and fifty-four babies were admitted during the year, the average stay of each being 29·3 days, and the daily average 12·3.

In spite of the fact that these babies are all normal babies, quite a number of them present feeding problems, especially in the twelve to eighteen months age group. Usually at this time they are teething, are at an age when separation from their mother disturbs them a great deal, and they take some time to settle down.

#### RAIL CAR.

The Rail Car continues its very useful and much appreciated itinerary, namely Winton, Dajarra, Julia Creek, Maxwellton, Kajabbi, and Richmond, calling as well at many sidings. Mothercraft lessons were given at Winton and Hughenden to pupils from both the State and Convent schools. Classes were commenced at Richmond but could not be completed before the close of the school year owing to floods. There were no pupils of a suitable age at Julia Creek.

Attendances for the year were 2,956.



ANTE-NATAL SECTION.

A total of 421 patients have attended the three ante-natal clinics in the past year. The number of attendances, 2,826, is an increase of 183 on the previous year. 75·3 per cent. of the patients returned for post-natal examination, an increase of 20·6 per cent. on the previous year, and 35·1 per cent. on the year 1953-54. The importance of post-natal visits cannot be over-stressed and the increased attendances are a response to approach to individual patients.

The attendance at the physiotherapy classes has been satisfactory, but a better attendance at the pre-natal talks to mothers is desirable. In view of the importance of the latter classes, especially for primiparae, renewed efforts will be made this year to attract interest. Patients from other ante-natal clinics or private practitioners and adopting mothers are encouraged to attend these classes.

The publication of the new edition of "The Expectant Mother" book is expected within the next few months.

Conditions complicating pregnancy were as follows:—

1. <i>Ante-natal.</i>	
Rh. Negative (5 of these showed anti-body formation)	49
Toxaemia of pregnancy	37
Hyperemesis	16
Essential hypertension	15
Premature labour (10 live births)	13
Vaginitis	12
Hypoproteinaemia	11
Miscarriage	8
Stillbirth	8
Cervicitis	6
Anaemia	5
Threatened miscarriage	4
Cystocele and rectocele	4
Contracted pelvis	4
Twin pregnancy	4
Caesarean section (1 had a previous Caesarean section, 2 had contracted pelvis)	3
Hydramnios	3
Pyelitis	2
Mitral stenosis	1
Thrombophlebitis	1
Infective hepatitis	1
Missed abortion	1
Diabetes mellitis	1

Of the patients who had premature labours—1 was a diabetic, 2 had hydrocephalic babies (of these 1 mother was toxæmic and 1 had a severe Rh. anti-body reaction), 2 had intra-uterine death of the foetus before labour commenced, 1 patient had a single pregnancy with toxæmia, 1 had a twin pregnancy with toxæmia, 1 patient had had 2 previous premature labours, 1 had poor physique and did not attend until the thirty-sixth week of pregnancy, 1 had travelled from Blackall a short time previously, 3 were unexplained.

Of the stillbirths, 1 baby was one of premature twins, 1 was a premature hydrocephalic, 1 was a hydrocephalic delivered by destructive operation, 1 intrauterine death occurred before labour commenced, 2 mothers were toxæmic, 1

intrauterine death occurred before labour commenced in the presence of hydramnios, 1 resulted after a long labour complicated by hydramnios.

2. <i>Post-natal.</i>	
Subinvolution	15
Rectocele and cystocele	9
Cervical erosion	8
Vaginitis	5
Rectocele	4
Cystocele	4
Cervicitis	3

The diet of 150 patients was investigated in detail. Eleven were found to be deficient in protein, calcium and vitamins. These patients were given mineral and vitamin supplements. Of these 11, one had a premature labour and one a mild toxæmia.

Of the mothers attending post-natally, six weeks after confinement, 14·2 per cent. had already weaned their babies.

ANTE-NATAL SECTION.

*Attendances at Metropolitan Centres.—*

Fortitude Valley	991
Woolloongabba	1,587
Caboolture	248

Expectant mothers attend a series of eight lectures and talks at Fortitude Valley and Woolloongabba centres. Quite a lot of interest is shown, and individual questions are replied to and advice given on the preparation of babies' clothes and patterns. Many of those who attend are sent by their own doctors for our books and literature.

Expectant mothers attending these talks—422.

Fortitude Valley and Caboolture ante-natal clinics have shown an increase in their attendances. Woolloongabba is the same as the previous year, but has many more outer suburban residents, who have difficulty in transport, than in the immediate area.

Physiotherapy classes are continued as in previous years.

Circular letters forwarded to expectant mothers	5,358
Circular letters forwarded to expectant mothers (other than above) re "Expectant Mother" books	2,384
Response to circular letters	1,610
Serial letters to expectant mothers	9,882
Letters received from expectant mothers	473
Special letters of advice sent on request	165
Copies of "The Expectant Mother" sent on request	1,365
Requests from country centres and hospitals for "The Expectant Mother" book	524
Copies of "Ante-natal and Post-natal Exercises" sent on request to Expectant mothers	1,545
Requests from country clinics for "Ante-natal and Post-natal Exercises"	1,753
Copies of baby patterns sent on request	253
Copies of maternity belt patterns sent on request	59

The correspondence service to expectant mothers is much appreciated by the country mothers that we are able to contact through the monthly lists received from hospitals and the maternal and child welfare centres.



## DIRECTOR'S CONSULTANT CENTRE.

Attendances during the year ended June, 1956, were as follows:—

Number of children examined for admission to Sandgate Home .. ..	1,418
Number of children examined for admission to Red Cross Home, Margate ..	341
Number advised by 'phone .. ..	416
Attendances at Director's Consultant Centre for advice .. ..	2,179
Total number of children examined or advised at Centre .. ..	4,353

This shows a slight decrease in the number of infants and toddlers whose feeding, management, or behaviour has proved difficult and who were referred to the Director by sisters in charge of metropolitan and country centres, and by private medical practitioners.

There has been a slight increase in the number of children medically examined and swabbed for admission to the Sandgate Home, and a decrease in the number of children medically examined and swabbed for admission to Red Cross Home, Margate. Again this year many families were unable to have their children admitted to Sandgate Home during the mother's hospitalisation owing to the shortage of beds. These families were referred to the Red Cross Home and, where possible, were admitted.

A number of children living out of the metropolitan area were medically examined and had throat swabs taken by their own doctors. Emergency cases during the week-ends had throat swabs taken at the Hospital for Sick Children. Children admitted to the Red Cross Home, Margate, during the year were medically examined and had throat swabs taken by the Director or Deputy Director. Of the throat swabs taken, 12 were positive, but all these were avirulent.

One hundred and seventy-seven blood counts, 77 urine specimens, 13 cellophane swabs, 8 specimens of faeces for fat analysis, 107 rectal swabs were examined at the Laboratory of Microbiology and Pathology.

Seventy-one children and babies were referred to hospital, 49 to their own doctor, 17 to the X-ray department, 2 to the Radium Clinic, 1 to the Psychiatry Clinic, 1 to the Speech Therapy Clinic, and 1 to the Acoustic Laboratory.

Of the 177 babies and toddlers who had blood counts done, 33 had haemoglobin levels below 10 gm. Of the rectal swabs examined, 6 gave positive swabs for Salmonella, 7 positive swabs for E. coli, and 3 positive swabs for B. coli.

Babies and toddlers who had blood counts done were referred from the centres because of paleness, and are not a cross section of the children attending the centres.

## PRE-SCHOOL HEALTH CENTRES.

At the fifteen centres and seven kindergartens, children from the age of one to six years were examined twice during the year at all centres except Ipswich. Appointments at Ipswich Centre are still at eight or nine monthly intervals.

The total number of examinations made during the year was 4,912, of which 2,109 were first examinations and 2,803 were subsequent examinations. Attendance at West End and Paddington was disappointing. Attendance at other centres was satisfactory.

Attendances are slightly lower than last year. The heavy rain in the early part of 1956 caused a drop in visits to some of the centres and an epidemic of scarlet fever in July–August, 1955, reduced the number of visits to Ipswich clinics

Table LX. shows the principal abnormalities found at half-yearly examinations:—

TABLE LX.

Knock knees .. ..	1,189
Enlarged tonsils .. ..	1,174
Bow legs .. ..	256
Adenoiditis .. ..	229
Carious teeth .. ..	168
Flat feet .. ..	72
Skin rash .. ..	66
Allergy .. ..	55
Intoeing .. ..	54
Cardiac murmur .. ..	54
Umbilical hernia .. ..	51
Tonsilitis .. ..	31
Pronated feet .. ..	25
Stained teeth .. ..	24
Thread worms .. ..	24
Squint .. ..	21
Pilonidal cyst .. ..	15
Geographical tongue .. ..	9
Hydrocele .. ..	8
Cyst .. ..	8
Naevus .. ..	8
Congenital heart .. ..	7
Bronchitis .. ..	7
Inguinal hernia .. ..	6
Impetigo .. ..	6
Undescended testes .. ..	6
Gingivitis .. ..	5
Talipes .. ..	4
Otitis media .. ..	4
Ringworm .. ..	4
Lordosis .. ..	4
Inverted feet .. ..	3
Birth mark .. ..	3
Scabies .. ..	2
Conjunctivitis .. ..	2
Cataract .. ..	2
Stomatitis .. ..	2
Mentally retarded .. ..	2
Kyphosis .. ..	2
Angioma .. ..	2
Epilepsy .. ..	2
Cleft Palate .. ..	2
Congenital deformities .. ..	2
Miscellaneous .. ..	27

One hundred and sixty-one blood counts, 52 specimens of urine, 12 cellophane swabs, 5 rectal swabs, and 3 specimens of faeces for fat analysis were examined at the Laboratory of Microbiology and Pathology.





Mothers visiting Rail Car at Winton, North-Western Queensland.



New Centre, Mount Isa, North-West Queensland.





Thirty-nine children were referred to hospital for treatment, 21 to their own doctor, 16 to the X-ray Department, 2 to the Radium Clinic, 4 to the Acoustic Laboratory, 5 to the Speech Therapy Clinic, 2 to the Child Guidance Clinic, 2 to the Physiotherapy Clinic, and 9 to their own dentist.

Of the 161 toddlers who had blood counts done, 20 had haemo-globin levels below 10 gm. per 100 mls., of the 5 rectal swabs examined one gave a positive swab for E. coli and one a positive swab for Salmonella.

COUNTRY CENTRES.

The total number of examinations of toddlers at country centres is as follows:—

Centre.	New Patients.	Subsequent Visits.	Total Visits.
Cairns .. ..	202	186	388
Rockhampton ..	142	28	170
Toowoomba .. ..	61	85	146
Townsville .. ..	189	191	380

Table LXI. shows the main abnormalities found at half-yearly examinations:—

TABLE LXI.

Umbilical hernia .. ..	8
Enlarged tonsils .. ..	7
Flat feet .. ..	5
Bow legs .. ..	5
Squint .. ..	4
Strabismus .. ..	4
Thread worms .. ..	3
Inverted feet .. ..	2
Miscellaneous .. ..	14

Thirty children were referred to their own doctor for treatment and three to their own dentist.

TABLE LXII.

	Year Ending 30-6-56.	Year Ending 30-6-55.
Number of birth notifications received .. ..	6,311	5,102
Number of circulars posted—		
(1) Within reach of a centre .. ..	1,979	1,609
(2) Not within reach of a centre .. ..	4,305	3,493
Number of follow-up circulars posted .. ..	4,543	2,788
Letters to correspondence in response to circular No. 2 .. ..	1,007	843
Visits to centres in response to circular No. 1 .. ..	..	..
Letters of advice re feeding and management sent on request .. ..	1,749	1,723
Number of “ Care of Mother and Child ” sent on request .. ..	988	1,057
Number of extra “ Care of Mother and Child ” sent on request .. ..	259	266
Number of six-month greeting cards sent re diphtheria .. ..	5,898	3,774
Number of birthday cards sent during the year .. ..	168	172
Number of telephone calls re feeding and management .. ..	115	111

SOCIAL WELFARE SERVICE.

The demand for this service continues. A number of mothers are being discharged from hospital on the fourth or fifth day after the confinement and this often necessitates the sister visiting the mother at home.

The sisters have had a very busy year with the number of visits 4,358, compared with 4,015

*Kindergartens controlled by the Creche and Kindergarten Association.*

Children attending Valley, Paddington, West End, and Rosalie were medically examined twice during the year.

*Kindergartens affiliated with the Creche and Kindergarten Association.*

Children attending Wynnum and Holland Park were examined twice during the year. The first visit to Holland Park was on 30th September, 1955. Children from Ashgrove Kindergarten, Devoy street, were medically examined at Ashgrove Toddlers’ Clinic.

*Kindergartens directed by Department of Public Instruction.*

Children attending West Ashgrove Kindergarten were medically examined twice during the year. Children from Ipswich Kindergarten attend Toddlers’ Clinic, Ipswich, for half-yearly medical examinations.

CORRESPONDENCE SECTION.

There is an increase of over a thousand in the birth notifications received from the centres this year, due to the fact that many sisters from the clinics sent in the names of mothers unable to visit the centre on account of bad roads caused by floods. More responses to circulars have been received during the year.

There is only a slight increase in the number of letters of advice re feeding and management sent out, but the mothers are still very appreciative of help given them. The lists of births which are received from the Brisbane Women’s Hospital and private hospitals, and also the deaths in the metropolitan area, are sent regularly to the Health Department at the City Council, as in previous years. Long distance telephone calls are still received from mothers seeking advice about their infants’ feeding, &c.

in the previous year. Ten thousand seven hundred newborns were visited in hospital and 650 visited at home.

LECTURE DEMONSTRATIONS TO SCHOOL GIRLS.

Mothercraft teaching in schools for the year ending 1955 was satisfactory. Lessons were given in the same schools as in the previous

year. Arrangements have been made for Mothercraft lessons to be given after the August vacation at the two new High Schools at Kedron and Mitchelton, the principals being very helpful in making available suitable times for the classes.

The sister on the Rail Car gave mothercraft lessons at Winton and Hughenden to pupils from both the State and Convent schools. Owing to the floods and the delays in visiting the centre, classes at Richmond were commenced and were unable to be completed before the close of the school year. At Julia Creek there were no pupils of a suitable age.

The sister from Charters Towers centre gave lessons at the High School. The results were good. At Mount Morgan Centre the sister gave mothercraft lessons at the Intermediate School and Convent, with good results. This year Mount Morgan Clinic has only a sister visiting from the Rockhampton Centre, so there will be no mothercraft lessons given at the schools there. The girls on the whole were enthusiastic and attentive and did good work both in their written papers and in compiling their mothercraft books. The usual functions, at which the prizes and certificates are presented, was held at most of the schools. Some schools this year presented their prizes at their own school breaking-up ceremony.

TABLE LXIII.  
RESULTS OF EXAMINATIONS IN MOTHERCRAFT FOR SCHOOL CHILDREN, 1955.

Time.	City Schools.	Number in Class.	Number sat for Examination.	Number obtaining over 60 per cent.
February–April ..	Petrie Terrace State School .. .. .	12	11	11
	Milton State School .. .. .	45	39	29
	Rainworth State School .. .. .	16	8	8
	Brisbane Girls' High School .. .. .	24	22	21
	Cavendish Road High School .. .. .	112	104	91
	Indooroopilly High School .. .. .	78	68	62
May–August .. ..	Wynnum Intermediate School .. .. .	118	105	87
	Domestic Science High School—Seniors .. .. .	9	9	9
	Domestic Science High School—Juniors .. .. .	13	10	8
	State Commercial High School .. .. .	81	70	61
August–December ..	Banyo High School .. .. .	85	73	64
	Ipswich High School .. .. .	78	66	57
	Salisbury .. .. .	96	85	83
	Brisbane State High School .. .. .	27	19	19
		794	689	610
<i>Country Schools.</i>				
	Winton State School .. .. .	8	6	6
	Winton Convent School .. .. .	7	6	4
	Hughenden State School .. .. .	12	10	6
	Hughenden Convent School .. .. .	4	3	2
	Mount Morgan High and Intermediate School .. .. .	28	25	24
	Mount Morgan Convent School .. .. .	7	7	6
	Charters Towers High School .. .. .	30	28	27
		96	85	75
Totals .. .. .		890	774	685

MEDICAL STUDENTS.

Demonstrations to fourth and fifth year medical students were discontinued from the beginning of the year. Final year students attend metropolitan centres one day each week for four consecutive weeks.

PUBLICATIONS.

The revised “Expectant Mother” booklet should soon be available.

“Care of Mother and Child” has also been revised, Educational Diet being advanced.

“Problems of Prematurity” are distributed as formerly to medical students and, on request, to hospitals and private practitioners.

NEWSPAPER ARTICLES.

Articles dealing with infant and pre-school child management were forwarded each month to 60 newspapers in the State. Subjects dealt with included.—“Gastroenteritis,” “Maintain Your Child in Health,” “Anaemia,” “Holiday

Accidents,” “Prepare Your Child for School,” “Common Complaints of Childhood,” “Vomiting,” “Cough,” “Some Skin Disorders of Childhood,” and “Teething.”

OVERSEAS VISITORS.

Dr. Evangeline Suva, Physician-in-Charge, F. Lanjza Health Centre, Manila, visited Queensland from 9th January to 12th March as part of her study of medical, social and allied problems in Australia. Dr. Suva spent a considerable time with the Maternal and Child Welfare Service, visiting homes and centres in and around the metropolitan area.

BABY CLINIC SOCIAL CLUB.

Meetings were held throughout the year and contributions are still being sent to the sponsored child, Helga Koller of Austria, through the Queensland Branch of the Save the Children Fund. Newsletters are forwarded regularly to country members which enables them to keep in touch with each other.



TABLE LXIV.

VISITS TO NEWBORNS, SUBSEQUENT AND TOTAL VISITS.

Year.	Visits to Newborns.	Subsequent and other Visits.	Total Visits.
1953-54 .. ..	25,284	913	26,197
1954-55 .. ..	26,348	951	27,299
1955-56 .. ..	26,513	1,451	27,964

TABLE LXV.

ATTENDANCES AT CENTRES.

Number of Cases seen at the Centres.

	1953-54.	1954-55.	1955-56.
Infants—			
Under one year ..	17,736	18,565	19,368
One to two years ..	4,750	4,653	5,152
Over two years ..	1,851	1,857	1,976
Total .. ..	24,337	25,075	26,496
Expectant mothers..	783	977	951
Total cases ..	25,120	26,052	27,447

TABLE LXVI.

ATTENDANCES OF INFANTS AND CHILDREN AT MATERNAL AND CHILD WELFARE CENTRES AND SUB-CENTRES.

Metropolitan.

—	1953-54.	1954-55.	1955-56.
Fortitude Valley ..	16,448	16,230	16,504
Branches—			
Clayfield .. ..	1,086	1,020	1,198
Hamilton .. ..	1,095	1,411	1,317
Hendra .. ..	1,264	1,245	1,280
Newmarket-Grange	1,042	1,049	937
Wacol Immigration Centre .. ..	1,112	1,222	853
West Stafford (opened 15-2-56)	..	..	275
Windsor .. ..	2,676	3,177	3,077
	24,723	25,354	25,441
Herschell Street ..	11,606	13,984	15,962
Branches—			
Corinda .. ..	2,051	2,046	2,049
Darra .. ..	933	1,419	821
Enoggera .. ..	1,685	2,085	2,405
Graceville.. ..	2,182	1,885	1,969
Immigration Centre Enoggera (closed 23-10-53)	178	..	..
Inala (opened 23-9-55)	..	..	1,486
Indooroopilly ..	1,042	1,149	1,241
Mitchelton ..	1,903	3,030	3,212
Oxley (opened 14-3-55)	..	165	872
St. Lucia .. ..	629	577	812
Toowong .. ..	1,376	1,508	1,883
	23,585	27,848	32,712
Nundah .. ..	5,374	5,265	5,424
Branches—			
Banyo (opened 16-5-55)	..	43	564
Chernside (opened 10-6-54)	56	2,292	2,694
Geebung .. ..	859	918	1,298
Kedron .. ..	3,099	1,662	1,669
Northgate .. ..	301	260	218
Wavell Heights	390	405	440
Zillmere .. ..	1,449	1,769	2,195
	11,528	12,614	14,502

Metropolitan—continued.

—	1953-54.	1954-55.	1955-56.
Paddington .. ..	4,382	3,411	3,005
Branches—			
Ashgrove .. ..	4,138	3,117	3,222
Bardon .. ..	994	1,044	1,195
Kelvin Grove ..	990	808	1,065
Rosalie .. ..	1,107	1,145	1,325
	11,611	9,525	9,812
Sandgate .. ..	4,166	5,474	6,347
Branches—			
Bald Hills (opened 4-4-56)	..	..	57
Caboolture ..	1,246	1,142	1,292
Cribb Island ..	268	357	307
Dayboro .. ..	308	360	343
Redcliffe .. ..	2,339	2,901	2,794
	8,327	10,234	11,140
South Brisbane Sub-centres—			
Archerfield ..	466	581	497
Bulimba .. ..	2,282	2,451	2,199
Camp Hill ..	2,122	2,365	2,089
Holland Park ..	2,060	2,087	2,347
Morningside ..	2,429	2,077	1,878
Stones Corner ..	821	746	997
	10,180	10,307	10,007
West End .. ..	6,499	6,240	6,811
Branch—			
Beenleigh ..	734	1,096	1,022
	7,233	7,336	7,833
Woolloongabba ..	19,468	18,155	18,852
Branches—			
Coopers Plains ..	680	1,163	1,846
Ekibin .. ..	1,305	1,747	2,107
Holland Park T.H.E. (closed 31-8-54)	430	47	..
Ipswich Road ..	1,564	1,491	1,588
Rocklea T.H.E. ..	778	1,191	1,474
Salisbury .. ..	929	1,101	1,475
Upper Mount Gravatt (opened 7-9-54)	..	559	1,276
Yeronga .. ..	1,539	1,586	1,669
	26,693	27,040	30,287
Wynnum .. ..	7,339	7,901	7,709
Branches—			
Cleveland ..	759	753	681
Manly .. ..	710	545	954
	8,808	9,199	9,344

Country.

—	1953-54.	1954-55.	1955-56.
Atherton .. ..	2,087	1,697	1,648
Branches—			
Herberton ..	337	191	128
Malanda .. ..	721	438	575
Millaa Millaa ..	537	630	670
Ravenshoe ..	646	610	644
Tinaroo Falls (opened 19-7-54)	..	113	189
Yungaburra ..	197	221	147
	4,525	3,900	4,001

## Country—continued.

—	1953-54.	1954-55.	1955-56.
Ayr (from 18-5-54)	407	3,430	3,782
Branches—			
Clare (opened 31-5-54) ..	16	214	335
Giru (from 18-5-54)	76	785	837
Home Hill (from 18-5-54) ..	214	1,888	1,924
	713	6,317	6,878
Barcaldine .. ..	849	1,235	1,339
Branches—			
Alpha .. ..	188	188	267
Aramac .. ..	188	142	202
Jericho .. ..	126	129	144
	1,351	1,694	1,952
Biloela .. ..	4,602	4,431	5,138
Branches—			
Baralaba .. ..	577	461	371
Goovigen .. ..	331	357	220
Jambin .. ..	154	119	83
Moura .. ..	308	190	220
Thangool .. ..	423	352	273
Theodore .. ..	451	433	465
Wowan .. ..	699	466	536
	7,545	6,809	7,306
Bowen .. ..	2,057	1,920	2,534
Branches—			
Collinsville ..	1,348	1,158	1,250
Proserpine ..	1,233	1,049	1,459
Queen's Beach (previously Murroona)	439	343	517
	5,077	4,470	5,760
Bundaberg .. ..	7,171	7,339	9,481
Branches—			
Gin Gin .. ..	423	417	119
Miriam Vale ..	262	283	180
	7,856	8,039	9,780
Cairns .. ..	7,388	7,941	10,230
Branches—			
Cooktown .. ..	325	178	159
Earlville .. ..	382	365	430
Edge Hill .. ..	875	964	655
Edmonton .. ..	420	547	302
Gordonvale .. ..	917	933	994
Kuranda .. ..	143	181	160
Mossman .. ..	944	1,296	1,544
	11,394	12,405	14,474
Charleville .. ..	4,413	4,213	3,752
Branches—			
Cunnamulla ..	899	950	1,093
Morven .. ..	142	153	148
Quilpie .. ..	377	301	278
	5,831	5,617	5,271
Charters Towers ..	3,449	2,927	3,002
Dalby .. ..	2,879	2,324	3,351
Branches—			
Chinchilla .. ..	1,453	945	1,176
Miles .. ..	527	643	670
	4,859	3,912	5,197

## Country—continued.

—	1953-54.	1954-55.	1955-56.
Emerald .. ..	1,025	1,095	1,611
Branches—			
Blair Athol ..	115	140	131
Capella .. ..	74	121	117
Clermont .. ..	330	420	543
Springsure ..	173	144	253
	1,717	1,920	2,655
Gayndah .. ..	1,613	1,688	1,862
Branches—			
Eidsvold .. ..	310	449	271
Monto .. ..	1,084	1,208	1,609
Mulgeldie .. ..	99	154	118
Mundubbera ..	832	931	841
	3,938	4,430	4,701
Gladstone .. ..	4,742	4,597	4,118
Branches—			
Calliope .. ..	157	152	101
Mount Larcom ..	712	456	330
	5,611	5,205	4,549
Goondiwindi ..	1,032	1,129	1,161
Branches—			
Dirranbandi ..	265	348	260
Inglewood .. ..	667	461	335
Texas .. ..	475	340	271
Yelarbon .. ..	107	126	145
	2,546	2,404	2,172
Gympie .. ..	4,851	5,506	5,475
Branches—			
Cooran .. ..	152	197	232
Cooroy (transferred from Nambour 7-3-56)	..	..	80
Imbil .. ..	289	361	471
Kandanga .. ..	148	140	117
Pomona .. ..	491	464	211
Tewantin (opened 14-3-56) ..	..	..	79
	5,931	6,668	6,665
Ingham .. ..	2,442	2,848	3,401
Branches—			
Cardwell .. ..	220	237	338
Halifax .. ..	791	748	567
	3,453	3,833	4,306
Innisfail .. ..	5,031	5,862	6,174
Branches—			
Babinda .. ..	881	1,313	998
El Arish .. ..	101	41	111
Mourilyan .. ..	96	307	280
Silkwood .. ..	138	124	184
South Johnstone ..	249	221	249
Tully .. ..	1,199	1,498	1,575
	7,695	9,366	9,571
Ipswich .. ..	11,789	11,091	11,658
Branches—			
Boonah .. ..	1,127	1,041	1,601
Esk .. ..	403	452	536
Laidley .. ..	631	525	758
Lowood .. ..	100	305	376
Rosewood .. ..	970	908	793
Somerset Dam (closed 12-4-55)	79	59	..
Toogoolawah ..	461	741	576
	15,560	15,122	16,298
Kingaroy .. ..	2,397	2,317	3,187
Branches—			
Kumbia .. ..	295	283	251
Nanango .. ..	524	274	464
Yarraman .. ..	129	152	143
	3,345	3,026	4,045



## Country—continued.

—	1953-54.	1954-55.	1955-56.
Longreach (closed 3-6-54, reopened 21-1-55) ..	725	608	1,518
Blackall (closed 3-6-54 to 2-1-55)	680	374	999
Muttaburra (closed 6-5-54, reopened 29-7-55)	16	..	9
	1,421	982	2,526
Mackay .. ..	7,054	6,895	7,726
Branches—			
Calen .. ..	180	216	278
Finch Hatton ..	333	336	388
Koumala .. ..	310	288	231
Marian .. ..	335	272	406
North Mackay ..	1,895	1,894	2,253
Sarina .. ..	1,808	1,804	1,916
West Mackay (opened 8-6-54)	56	1,614	2,011
	11,971	13,319	15,209
Mareeba .. ..	2,994	2,804	3,369
Branches—			
Dimbulah (closed 3-8-53, reopened 8-7-55)	19	..	261
Mount Mulligan ..	151	173	182
	3,164	2,977	3,812
	6,844	7,243	6,453
Maryborough ..			
Branches—			
Biggenden .. ..	824	833	662
Childers .. ..	553	702	516
Howard .. ..	584	559	448
Pialba .. ..	647	458	449
	9,452	9,795	8,528
	3,072	3,272	3,861
Mount Isa .. ..			
Branches—			
Camooweal .. ..	99	72	63
Cloncurry .. ..	761	614	990
	3,932	3,958	4,914
	2,721	2,559	1,722
Mount Morgan (transferred to Rockhampton 5-3-56)			
Branches—			
Baree (closed 7-2-56)	207	183	189
Red Hill (closed 9-2-56)	61	30	37
	2,989	2,772	1,948
	1,299	1,437	1,417
Murgon .. ..			
Branches—			
Goomeri .. ..	524	319	660
Hivesville .. ..	81	79	82
Kilkivan .. ..	143	85	95
Proston .. ..	79	73	199
Wondai .. ..	876	740	682
	3,002	2,733	3,135
	3,189	3,200	3,884
Nambour .. ..			
Branches—			
Buderim .. ..	104	107	118
Caloundra .. ..	277	323	423
Cooroy (to 7-3-56)	879	684	451
Eumundi .. ..	201	169	145
Landsborough ..	164	215	164
Maroochydore ..	373	397	408
Palmwoods .. ..	166	251	264
Yandina .. ..	146	278	233
	5,493	5,624	6,090

## Country—continued.

—	1953-54.	1954-55.	1955-56.
Railway Car—			
Winton .. ..	683	616	773
Hughenden .. ..	1,370	1,056	946
Julia Creek .. ..	686	588	562
Maxwelton .. ..	159	212	241
Richmond .. ..	558	512	414
	3,456	2,984	2,936
Rockhampton ..	11,737	11,256	11,449
Branches—			
Mt. Morgan (from 5-3-56) .. ..	..	..	443
North Rockhampton .. ..	1,569	1,278	1,544
Ogmore .. ..	181	188	198
Park Avenue (opened 18-11-54) ..	..	459	818
St. Lawrence .. ..	122	171	130
Yeppoon .. ..	687	825	1,034
	14,296	14,177	15,616
Roma .. ..	2,476	2,470	2,819
Branches—			
Dulacca .. ..	139	141	176
Jackson .. ..	175	158	200
Mitchell .. ..	1,233	1,290	1,271
Surat .. ..	341	228	311
Wallumbilla .. ..	152	95	133
Yuleba .. ..	225	284	232
	4,741	4,666	5,142
Southport .. ..	3,330	3,357	3,740
Branches—			
Beaudesert .. ..	1,286	1,583	1,506
Burleigh Heads ..	691	944	950
Coolangatta .. ..	2,739	2,693	3,131
	8,046	8,577	9,327
Toowoomba .. ..	8,586	7,556	7,903
Branches—			
Clifton (transferred Warwick 2-7-54)	206	..	..
Crow's Nest .. ..	682	484	627
Forrest Hill .. ..	34	75	57
Gatton .. ..	968	975	1,005
Harristown .. ..	641	699	610
Millmerran (opened 22-7-54) .. ..	..	466	632
Oakey .. ..	645	785	826
Pittsworth .. ..	1,136	1,152	999
	12,898	12,192	12,659
Townsville .. ..	12,908	12,304	11,988
Branches—			
Ayr (to 18-5-54)	3,258	..	..
Garbutt (opened 29-11-54) ..	..	130	520
Giru (to 18-5-54)	499	..	..
Gulliver (opened 21-3-56)	..	..	368
Home Hill (to 18-5-54) .. ..	1,596	..	..
Rising Sun (opened 30-11-54) ..	..	965	1,991
	18,261	13,399	14,867
Warwick .. ..	5,094	4,574	4,739
Branches—			
Allora .. ..	666	584	579
Clifton (transferred from Toowoomba 2-7-54) .. ..	..	223	280
Killarney .. ..	390	360	586
Stanthorpe .. ..	2,586	2,666	2,388
	8,736	8,407	8,572
Social Welfare Services ..	3,865	4,015	4,358

TOTAL ATTENDANCES OF INFANTS AND CHILDREN  
AND EXPECTANT MOTHERS.

1953-54.	1954-55.	1955-56.
362,008	370,680	401,828

TABLE LXVII.

ATTENDANCES AT ANTE-NATAL CLINICS.

					1953-54.		1954-55.		1955-56.	
					New Cases.	Attendances.	New Cases.	Attendances.	New Cases.	Attendances.
Fortitude Valley	..	..	..	..	74	718	98	801	91	991
Woolloongabba	..	..	..	..	133	1,193	179	1,634	188	1,587
Caboolture	..	..	..	..	21	236	34	209	28	248
Herschell Street	..	..	..	..	5	8	..	..	..	..
West End	..	..	..	..	6	12	..	..	..	..
Totals	..	..	..	..	239	2,167	311	2,644	307	2,826



## DIVISION OF SCHOOL HEALTH SERVICES.

Chief Medical Officer: P. R. PATRICK, M.B., B.S. (Q'ld.).

Chief Inspector, School Dental Services: G. O. HOSKING, L.D.Q.

### STAFF.

The staff position has been relatively satisfactory. The number of medical officers remained the same. Two school sisters resigned to be married and were replaced by new appointments.

During the last two months of the year the School Health Services commenced to prepare for the mass immunisation campaign against poliomyelitis with Salk vaccine. To cope with this extra work seventeen temporary sisters were appointed.

In the dental section the staff was increased by two. Two dentists left the service and four new appointments were made. At the end of the year the field staff consisted of:

- The Chief Medical Officer,
- Two full-time Medical Officers,
- One part-time Medical Officer,
- The Chief Dental Inspector,
- Seventeen full-time Dental Officers,
- One part-time Dental Officer,
- The Senior Sister,
- Twenty-two School Sisters (Permanent Staff),
- Seventeen Sisters (Temporary—Salk Vaccine Campaign).

### ROUTINE MEDICAL INSPECTIONS.

A great portion of the time of the field staff is taken up with routine medical inspections. Queensland is divided into school health districts, and a school sister is allotted to each district. Schools are visited once every year and children are medically inspected every two years. Children are taken from alternate grades for this inspection. In addition to the routine inspection other examinations include re-examination of children with known defects and examination of children from other grades with special problems, referred by either teachers or parents. In areas where school medical officers are available, all new admissions are fully examined and medical officers examine children referred by school sisters. In the metropolitan area school sisters are readily available to investigate children with minor skin infections, pediculosis infestation, and children with special problems as deafness and backwardness.

During the year 67,807 children were medically examined. Of these, 18,825 were in Brisbane and 48,982 were in country schools. School medical officers examined 10,856 of these children. These comprised new admissions and referrals from upper grades with special problems. The number of children examined was less than the previous year due to routine medical inspection ceasing at the end of April, so that preparations could be made for the Salk vaccine campaign.

The number of schools visited in conducting routine medical examinations was 913, comprising 102 Brisbane schools and 811 country schools.

Of the children examined 2,611 children had medical defects about which a further opinion was considered necessary, and these were referred to private practitioners for advice. This figure includes only those children with defects which were considered would benefit by further medical advice. It does not include those children already being treated or those with defects for which it was considered treatment would be of no avail.

After parents are notified of a defect, the action taken by parents is checked at the end of one month and again at the end of two months. The service is greatly helped in this regard by the co-operation of head teachers. It is pleasing to report from returns received from head teachers that 80 per cent. of parents had already sought advice from their own doctors two months after notification of a defect.

### COMMUNICABLE DISEASES IN SCHOOLS.

There was no serious outbreak of communicable disease in Queensland during the year. Of the notifiable diseases, the only disease which showed an increase in numbers was scarlet fever.

*Diphtheria.*—The number of cases of diphtheria notified among school children during the year was 24. This low level is due no doubt to "booster" doses at school entry age. It is believed that the number could be reduced further as the percentage of school children who have received "booster" doses is still not high enough. From information obtained by school sisters during routine medical examination, it was found that the percentage of children commencing school who had received initial diphtheria immunisation was 94.6 per cent. in Brisbane schools, and 85 per cent. in country schools. In Brisbane schools the proportion of children who had in addition received "booster" doses was only 42 per cent., and in country schools 24 per cent.

*Scarlet Fever.*—There was an increase in the number of scarlet fever cases notified amongst school children. The total number notified was 404 as compared with 242 the previous year. The increase occurred in both city and country schools. The disease continues in a mild form and perhaps this is the reason for the increase. There is no doubt that many mild cases are missed and continue at school thereby spreading the disease.

*Poliomyelitis.*—The number of cases of poliomyelitis notified among school children was 51. This is one of the lowest figures recorded since the major epidemic years of 1950-51 and 1951-52.



The cases occurred as single cases from schools. It is hoped that in future years, the mass vaccination programme against the disease using Salk vaccine will reduce the numbers still further.

*Other Communicable Diseases.*—Of the other notifiable diseases the only one to be reported in large numbers from school children was rheumatic fever, of which 113 cases were notified. It is interesting to note that as in the previous year more cases occur in the metropolitan area than in the country. This is a known characteristic of the disease.

There were 12 cases of tetanus reported among school children. It is regretted that these cases still occur when there is readily available the means of prevention by immunisation. From returns from schools only 48 per cent. of children entering school were found to be immunised against the disease. No doubt the use of triple antigen now widely being used by local authorities in their immunisation campaigns and by private doctors will increase the number protected against the disease.

Of the remaining notifiable diseases the number reported from school children were lead poisoning (16), tuberculosis (6), cerebro-spinal meningitis (3), malaria (3), and typhoid fever (2).

*Immunisation.*—Local Authorities in Brisbane and Ipswich were assisted by school sisters in their immunisation campaigns. In Brisbane schools help was given with diphtheria booster injections, and with triple antigen and tetanus immunisation. This involved injections to 8,702 children.

*Mantoux Testing of School Children.*—Officers from the Division of Tuberculosis carried out Mantoux testing in primary schools in Brisbane. All children who intended leaving the primary section of both State and private schools during the current year were included. The total number of children tested was 5,098. Of these the number of children who gave positive reactions was 1,050—a percentage of 20·6. This was lower than the preceding year when 25·8 per cent. of children tested gave positive reactions. The negative reactors were offered B.C.G. vaccine and over 97 per cent. of parents gave consent to this procedure.

It was proposed to extend this service to country areas using school sisters to do the testing. School sisters from Rockhampton, Toowoomba, and Townsville were brought to Brisbane at the beginning of the 1956 school year for training in Mantoux testing and B.C.G. vaccination work. On their return to their centres they commenced Mantoux testing of primary school leavers. When the Salk vaccination programme is completed it is hoped to train all school sisters in this work so that such tests will be part of routine school health work.

#### SERVICE TO REMOTE AREAS.

As in previous years the field staff of School Health Services continued to give priority to country children. The greater proportion of school sisters are stationed in the country, and throughout the year positions in all country centres were kept filled.

School dentists all work in country areas. The only children attended by school dentists in Brisbane and in large cities are those in homes under the supervision of the State Childrens' Department. In Brisbane and other towns where Hospital Board Dental Clinics are situated, children whose parents cannot afford private dental fees are expected to attend those clinics. In this way school dentists give first priority to children attending school in remote areas of the State. Many of these schools are situated away from public transport. To visit these schools dentists use official vehicles, and where these are not available, are allowed to hire private transport, the cost of which is borne by the Department.

During the year, dentists hired private transport to visit 132 schools and treat 3,576 children. Sisters stationed in country districts also use private transport and visited 280 schools to examine 6,976 children in this manner.

#### SPECIAL EDUCATION.

School Health Services again assisted in the investigation of children who were not progressing satisfactorily in their education. These children are thoroughly investigated through the co-operation of several agencies. There is a mutual referral of cases between School Health Services, the Research and Guidance Branch of the Department of Public Instruction, the Remedial Education Centre of the University of Queensland, and the Commonwealth Acoustic Laboratory. In this way children are examined medically, tested for intelligence and finally sent to the school which best suits their handicap.

*The Deaf Child.*—Tests for hearing are an essential part of school examinations. The Commonwealth Acoustic Laboratory has made available a limited number of portable audiometers which are used by school sisters for testing of hearing. Of 4,792 children tested in this manner in country areas, 79 were found to have defective hearing. In Brisbane, children with defective hearing are referred to the Commonwealth Acoustic Laboratory where exact tests are carried out, and a hearing aid supplied if necessary. During the year 142 such children were referred by School Health Services for this testing. Previously, the services of this laboratory have been limited to Brisbane children and country children able to travel there. It is pleasing to note that during the year an officer from the Acoustic Laboratory visited Rockhampton, Townsville, and Cairns to test children at those centres. School sisters in those towns co-operated in this testing and had many children ready to avail themselves of this service.

An important step forward in the teaching of the deaf child was taken in Queensland with the establishment of the Oral School for Deaf



Children at Gladstone road, Dutton Park, early in 1956. Before admission all children are investigated by an Ascertainment Committee, and the School Health Service conducts medical examination of prospective admissions.

#### THE EDUCATIONALLY SUBNORMAL CHILD.

School Health Services assists the Department of Public Instruction in the investigation of the educationally subnormal child. Before such children are sent to Opportunity Schools they are examined fully medically in an endeavour to eliminate any medical defect which may be retarding their school progress. During routine medical examinations children who are thought to be backward are referred to the Research and Guidance Branch for intelligence testing. In Brisbane 93 such children were discovered during routine medical examinations.

In country areas complete investigation of such children is not always possible, but many are brought to Brisbane either by their parents or through voluntary organisations after referral by country school sisters.

The remedial Education Centre of the University of Queensland concerns itself with children of normal intelligence who are not progressing educationally in keeping with their intelligence. Before remedial teaching is commenced School Health Services conducts a thorough medical examination. Fifty-five such children were examined during the year.

From an analysis of findings in a special investigation of backwardness in which a group of backward children was compared with a control group at three Brisbane schools, it was noted that there was a greater extent of respiratory and throat infections in the backward group. While such illness cannot be blamed for all backwardness, it is a significant factor in educational retardation.

#### THE TEACHERS' TRAINING COLLEGE.

The School Health Services Branch examined 553 entrants to the Teachers Training College during the year. All students were Mantoux tested by the staff of the Chest Clinic. Once a fortnight during the year a medical officer has visited the college to consult with the principal on particular students and to give advice to any student on personal health problems.

During 1955 a new health course for student teachers was introduced at the College. It is designed to enable the teacher to give health education lessons to children. The course was drawn up by the School Health Co-ordination Committee which consists of representatives from the Queensland Health Education Council, the Education Department, the Teachers' Training College, the Physical Education Branch and the School Health Services. At the annual camp held by the Physical Education Branch at the National Fitness Camp at Tallebudgera for student teachers, discussions on school health topics were held. The value of the new health course was apparent in the standard of these discussions.

#### HOO KWORM CONTROL ASSISTANCE.

In North Queensland two school sisters stationed respectively at Cairns and Innisfail assist in hookworm control in addition to their routine medical examinations. They collect and examine specimens from school children and others in the area. During the year 1,312 white children were investigated. Of these only 16 were found to have hookworm infestation. The infestation, however, is very high in aboriginal children. Of 956 aboriginal children investigated 491 were found to be positive.

#### SCHOOL DENTAL SERVICE.

While there was a slight increase in dental staff at the beginning of 1956 the service still suffers from an insufficient staff. However, the existing staff continued to give a very satisfactory service to children in remote areas of the State. As mentioned elsewhere in this report school dentists work only in areas away from large cities. The service is a travelling one and entails the use of portable equipment in many instances and long periods away from home. School dentists are to be commended for the manner in which they overcome many difficulties associated with their work.

The four Rail Clinics continued to give excellent service to children attending schools on the Atherton Tableland and along the three main inland rail lines.

During the year school dentists examined 22,446 children. Of these 1,192 had naturally sound mouths. This means that only 5.3 per cent. of children examined had not suffered from dental caries. Of the remainder 17.8 per cent. had mouths operatively restored. Thus of all the children examined 77 per cent. were in need of dental treatment. Dental treatment was given to 10,039 children and included 10,920 extractions and 23,576 fillings.

#### SALK VACCINE CAMPAIGN.

In April, 1955, at Ann Arbor, Michigan, U.S.A., Dr. Thomas Francis, junr., announced the results of extensive field trials in which children had been vaccinated against poliomyelitis with a vaccine developed by Dr. Jonas Salk. The chief findings of the Francis Report, as it is now known, were that the vaccine was safe and effective, although the degree of protection against the three types of poliomyelitis varied, being 65-70 per cent. for Type I, and 80-90 per cent. for Types II. and III.

The Australian Government had sent Dr. P. L. Bazeley of the Commonwealth Serum Laboratories to work with Dr. Salk. On Dr. Bazeley's return to Australia, his report was considered by the National Health and Medical Research Council who recommended that the Commonwealth Serum Laboratories proceed to manufacture a vaccine using the same strains of the virus and methods as those used by Dr. Salk. The Commonwealth Government then offered to supply the vaccine to the various States on the understanding that the States bear the cost of the proposed mass immunisation programme. Queensland, along with all other



States, agreed to this proposal. The manufacture of the vaccine was commenced at the Commonwealth Serum Laboratories late in 1955, and it was announced that enough vaccine would be ready to commence mass immunisation in the middle of 1956.

*Meeting of Poliomyelitis Committee of National Health and Medical Research Council, November, 1955.*

At a meeting of the Poliomyelitis Committee of the National Health and Medical Research Council held in Melbourne during November, 1955, representatives from all States discussed with representatives of the Commonwealth Government and officers from the Commonwealth Serum Laboratories the proposed mass immunisation programme. The Director of the Commonwealth Serum Laboratories, Dr. F. G. Morgan, announced a planned production of 440,000 doses of Salk vaccine per month. From population figures it was shown that this production would be sufficient to give two doses of the vaccine to all children in Australia in the 0-14 years age group within twelve months. Dr. P. L. Bazeley, the director of the Poliomyelitis Division of the Laboratories, stated that the vaccine would be given intra-muscularly in three doses of  $\frac{1}{2}$  c.c. at zero, 4 and 28-52 weeks. The vaccine should be stored at low temperatures as heat affected its potency. If kept between 0 deg.-2 deg. C. it could be used up to six months after manufacture. Above this temperature its length of potency was reduced, and at room temperature it should not be used after 48 hours.

The Committee recommended *inter alia* that—

(1) The monthly production should be allocated to the States on a proportional basis determined by the ratio of the 0-14 age group in each State to the Commonwealth total of that age group. The States for their part should undertake to plan for the complete use of their allocation.

(2) The issue of poliomyelitis vaccine should be restricted to State Public Health Authorities until the mass immunisation programme has been completed.

(3) Due to the special risks confronting pregnant women during epidemics of poliomyelitis they should be included in the 0-14 years of age group in the immediate priority category.

*Preparations for Mass Immunisation in Queensland.*

In preparing plans for the mass campaign in Queensland consideration was given to the principles outlined above, and the factors peculiar to this State such as long distances, high summer temperatures and available staff. It was agreed that the Department should have full control of the campaign so that there would be uniformity in technique and the keeping of records. After consideration of various proposed methods of running the campaign, the final plan to be adopted was one based on the co-operation of local medical practitioners with school health sisters.

*Division of Queensland into Districts.*

It was decided that while the number of children that could be vaccinated each month would be limited by the quota of vaccine, country children should have the same opportunity for vaccination as Brisbane children. Arrangements have been made for Queensland's quota, which at first will be 61,530 doses every four weeks, to be allocated to all parts of Queensland proportionate to the population in each area. Queensland has been divided into districts having approximately the same population in the 0-14 years age group. The total population in this age group in the State is nearly 400,000. Eighteen districts have been devised, of which five are in Brisbane, and thirteen in the country. In nearly all instances the districts coincide with school health districts worked by school sisters.

Vaccination will commence simultaneously in all districts and each vaccination team will work systematically through the district giving two injections to all children desiring vaccination and later returning to give a booster dose. This entails the giving of 800,000 initial doses and 400,000 booster doses if all children eligible desire immunisation.

*Personnel of Vaccination Teams.*

Each vaccination team will consist of a local medical practitioner and two school sisters. The doctors will be employed by the Department in a part-time capacity and will not travel far from their surgeries. The school sisters will be permanent members of the team and will move through the district. They will be responsible for the arranging of the programme in their district, the keeping of records, the sterilisation of equipment and assisting the doctor during the actual vaccination. As the proposed programme is a continuous one, it is essential that the nursing staff be always on duty. It was therefore found necessary to appoint seventeen additional school sisters to augment the existing staff.

*Co-operation of Private Medical Practitioners.*

The proposed campaign has been received with enthusiasm by medical practitioners throughout the State. The Council of the Queensland Branch of the British Medical Association advised all members that it was satisfied the vaccine was safe and effective, and recommended participation in the scheme. The response was very pleasing. Sufficient volunteers from private practitioners have been received to man vaccination teams in almost all parts of the State. In only a few centres will it be necessary to obtain medical personnel from sources other than private practice.

The Royal Flying Doctor Service of Queensland has offered to co-operate in the campaign and arrangements will be made for children in outback areas to receive their injections through this Service.

*Co-operation of Schools.*

The age groups to be vaccinated include two main groups, viz. children attending primary schools and pre-school children. Arrangements have been made for all vaccination of children



to be carried out at schools where there are large groups of children under discipline and readily marshalled.

In the organisation of the campaign great assistance has been received from the Director-General of Education and his officers, and the Director of Catholic Education.

All schools, both private and State, will be visited provided there are sufficient numbers to receive injections. Children attending schools with small attendances will be expected to travel to larger schools. Parents of pre-school children will be asked to bring their children to schools. Appointment cards advising the school, date and time of vaccination, will be posted to parents. Teachers will greatly assist in the campaign by marshalling children and doing a certain amount of clerical work involved.

#### *Distribution.*

The poor keeping quality of the vaccine, the high summer temperatures, and the long distances in this State present special problems in distribution. The following arrangements have been made to overcome these difficulties. The Commonwealth Serum Laboratories will forward the vaccine by air in special insulated containers every two weeks to the Commonwealth Director of Health, Brisbane. From there the distribution is the responsibility of the State. Special insulated containers, viz., Aero-Jablex boxes, will be used to send the vaccine once a week to country centres. There the vaccine will be immediately collected by the Local Authority health inspector and placed in approved refrigeration. Before forwarding to the country the Aero-Jablex boxes must be pre-cooled and arrangements have been made for the pre-cooling of these containers and the packing of the vaccine at the Red Cross Blood Transfusion Centre, Brisbane. The Brisbane supplies, will be transferred once a week to a special refrigerator installed for the purpose at School Health Services Office, William street. Each day only the amount of vaccine known to be required for the day's vaccination will be taken out of refrigeration. These arrangements will ensure that vaccine used during the campaign will be potent at the time of injection.

#### *Publicity.*

During the early weeks of the mass immunisation campaign with Salk vaccine in the United States, a number of children developed paralytic poliomyelitis after injections with vaccine prepared by one particular drug firm. Subsequent tests of the remainder of the batch of the vaccine showed that it contained living virus. There was naturally great concern both in medical circles and on the part of parents at this happening which received publicity not only in America, but other parts of the world including Australia. Despite the fact that assurances were given that the Salk vaccine to be used in Australia would be perfectly safe there was some considerable doubt about its safety both in the minds of the medical profession and parents when the proposed mass immunisation programme was first announced

in this State. This attitude gradually changed due to the acceptance of the vaccine by the Federal Council of the British Medical Association at its meeting in Hobart in March, 1956, with subsequent acceptance by the Queensland Branch, and the excellent publicity programme prepared by the Queensland Health Education Council which was given the task of publicising the campaign in Queensland. The result of the publicity campaign was seen when the first consent forms distributed to parents through schools in May, 1956, were collected. The percentage of parents throughout Queensland who desired their children immunised as a result of this first distribution was over ninety.

#### *Equipment.*

Early in the organisation for the campaign it was decided that all equipment and its sterilisation would be the responsibility of the Department. Three main factors influenced the choice of equipment. They were (1) efficient sterilisation (2) ease of transport and (3) independence of facilities at schools. The Departmental Advisory Committee on Sterilisation set up in 1950 found that domestic-type pressure cookers are an efficient means of sterilising syringes and needles, and it was decided to use pressure cookers for sterilisation of syringes and needles to be used in the campaign. The equipment used can be easily transported and set up in any convenient place.

#### *Co-operation from Many Agencies.*

The proposed programme is the largest immunisation campaign ever attempted in this State. Its preparation has entailed assistance from many sources. It is pleasing to report the ready co-operation received from many government departments and outside agencies. It is confidently expected that this co-operation will continue throughout the campaign, and by the joint efforts of all concerned the incidence of poliomyelitis will be greatly reduced in Queensland.

#### TABLE LXVIII.

##### TABLE OF FINDINGS—SCHOOL HEALTH SERVICES—1955-1956.

Number of visits paid to schools on medical inspection by school sisters—

Metropolitan	..	..	..	..	102
Country	..	..	..	..	811

Number of children examined by school sisters—

Metropolitan	..	..	..	..	18,825
Country	..	..	..	..	48,982

Number of children whose parents were notified of child's defect—

Total	..	..	..	..	2,611
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Number of homes visited by medical staff—

Total	..	..	..	..	140
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Number of parents interviewed at school by medical staff—

Total	..	..	..	..	200
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TABLE LXVIII.—*continued.*TABLE OF FINDINGS—SCHOOL HEALTH SERVICES—1955-1956—*continued.*

Apparent physical defects notified by metropolitan and country medical staff—

Defect.	Total.
Defective vision .. .. .	1,091
Strabismus .. .. .	93
Other eye defects .. .. .	74
Deafness .. .. .	132
Ear discharge .. .. .	15
Unhealthy tonsils .. .. .	694
Swelling in groin .. .. .	92
Swelling in scrotum .. .. .	34
Posture defects .. .. .	82
Lower limb defects .. .. .	191
Heart .. .. .	30
Other defects .. .. .	203
Scabies .. .. .	9
Impetigo .. .. .	266
Pediculosis .. .. .	449
Other skin defects .. .. .	99

Number of cases of diphtheria in school children—

Metropolitan .. .. .	3
Country .. .. .	21

Number of cases of scarlet fever in school children—

Metropolitan .. .. .	137
Country .. .. .	267

Number of cases of poliomyelitis in school children—

Metropolitan .. .. .	21
Country .. .. .	30

Number of cases of lead poisoning in school children—

Metropolitan .. .. .	Nil
Country .. .. .	16

Number of cases of malaria in school children—

Metropolitan .. .. .	Nil
Country .. .. .	3

Number of cases of meningitis in school children—

Metropolitan .. .. .	1
Country .. .. .	2

Number of cases of tetanus in school children—

Metropolitan .. .. .	6
Country .. .. .	6

Number of cases of tuberculosis in school children—

Metropolitan .. .. .	2
Country .. .. .	4

Number of cases of typhoid in school children—

Metropolitan .. .. .	1
Country .. .. .	1

Number of cases of rheumatic fever in school children—

Metropolitan .. .. .	69
Country .. .. .	44

## SCHOOL DENTAL INSPECTION.

Table LXIX. gives the results of examinations carried out by dental officers during the year.

TABLE LXIX.

Number of Children Examined.	Number Notified for Professional Attention.	Number of Children under Regular Dental Care.			Number with Sound Mouths.		Caries Teeth Saveable (Permanent).	Caries Teeth Unsaveable (Permanent).	Temporary Carious Teeth.	Permanent Teeth Lost or Extracted.	Six-year Molars Extracted.
		Clinic.	School Dental Officer.	Private Dentist.	Natural.	Operatively Re-stored.					
22,446	5,168	484	6,064	6,272	1,192	4,014	28,477	3,830	28,780	11,209	8,525

TABLE LXIX.—*continued.*

Permanent Teeth Filled.	Temporary Teeth Filled.	State of Mouth. *			Use of Tooth Brush. †			Percentage of Children with Dirty Mouths.	Total Number of Defective Permanent Teeth.	Average Number of Defective Permanent Teeth per Child.
		A.	B.	C.	A.	B.	C.			
30,649	7,172	7,676	12,819	1,951	7,245	10,437	4,764	8%	32,307	1.4

\*State of Mouth—

A—Good Standard of Mouth Health.  
 B—Fair Standard of Mouth Health.  
 C—Bad Standard of Mouth Health.

†Use of Tooth Brush—

A—Regularly clean the teeth.  
 B—Occasionally clean the teeth.  
 C—Never clean the teeth.

## CLINICAL PHASE OF SERVICE.

Table LXX. summarises the particulars of treatment performed during the year. The summary does not include treatment performed throughout the State at the various Hospital Board Clinics for children who were referred to such clinics by officers of the School Health Services.

TABLE LXX.

## TOTAL TREATMENT FOR YEAR.

Number of Children Treated.	Number of Extractions.	Number of Fillings.	Number of Other Treatments.
10,039	10,980	23,576	12,867



Table LXXI. sets out the work performed by school dentists in treating correspondence children. While the numbers are not large they illustrate an endeavour to include all children in remote areas in the service.

TABLE LXXI.

TREATMENT FOR CORRESPONDENCE PUPILS.

Number of Children Treated.	Number of Extractions.	Number of Fillings.	Number of Other Treatments.
44	65	113	86

In addition to the treatment performed by dental inspectors of schools, children are treated at the various Hospital Board Dental Clinics throughout the State, and Table LXXII. sets out the treatment of school children at the Brisbane Dental Hospital.

TABLE LXXII.

TREATMENT OF SCHOOL CHILDREN AT  
BRISBANE DENTAL HOSPITAL

Number of Children Treated.	Number of Extractions.	Number of Fillings.	Number of Other Treatments.
25,386	32,243	84,980	32,352

## DIVISION OF MENTAL HYGIENE.

Director of Mental Hygiene: B. F. R. STAFFORD, M.B., B.S. (Melb.).

A survey of the past year's activities would disclose certain trends in the care and treatment of the mentally sick.

### ACCOMMODATION.

An extensive building programme has proceeded throughout the year. The new hospital at Charters Towers is steadily progressing. It has reached a stage of development where ancillary services must be constructed and provided simultaneously with additional patient accommodation. The pioneering stages of a large project such as the Charters Towers Mental Hospital are inevitably associated with difficult adjustments for staff. On the one hand they are 900 miles away from the central administration, and on the other hand are too small a unit to warrant the immediate functioning of all the facilities of a large hospital. A second phase of pioneering will cause another problem. Services will be established, such as kitchen, &c., capable of catering for a much greater number of patients than will presently be there. The co-operation of the staff in these circumstances is appreciated. It is felt that they have a splendid opportunity of commencing a nursing attitude that could well revolutionize the care of the mentally sick, situated as they are so far from the other hospitals and removed from established practices and traditions.

A modern ward has been occupied as part of the Farm Colony at Wacol. This colony is situated near the Brisbane Mental Hospital and is planned to develop as a special unit where selected patients could be expected to benefit by a regime of rehabilitation associated with rural occupations.

A new female unit has been approved and will be sited at Ipswich Mental Hospital. It is expected that when this unit functions an additional medical officer will be appointed, enabling this hospital to function more closely with the Ipswich General Hospital.

### SENILITY.

The care of the aged remains an urgent problem. It is felt that the specialised resources of a mental hospital are not actually required to efficiently nurse and care for many of these old folk. These people have been afflicted with mental infirmity because of their age. They are also suffering from physical infirmities or will do so; consequently the emphasis of their care must be upon physical nursing.

The development of this appreciation has led to the establishment of the Dalby Jubilee Hospital as a service of the Dalby Hospitals Board where some 85 old ladies are being nursed under ideal conditions. So successful has the Jubilee Hospital proved that it will soon be enlarged to nearly double its present size.

The Dalby Hospitals Board undertook what was recognised at the time as an experiment. It has been so successful that other Hospitals Boards have arranged for annexes to be built in order to care for patients suffering from senescence. This expansion of geriatric nursing in country hospitals will, without doubt, provide opportunities for training and experience in essential nursing that must be of considerable value.

### TREATMENT.

A notable trend in the treatment of mental sickness over the past 12 months has been the use of medicines known as "tranquillizers." These drugs have not achieved spectacular results if tested against high standards for gauging recovery. Nevertheless, through their use a decided improvement has been recorded in many of the so-called "chronic" cases, and a number of fairly well adjusted, but institutionalized patients, have improved sufficiently to be discharged.

However, it is realised that numerous temporary responses are common with all treatments enthusiastically administered; therefore it is hoped that the earnest physician and the sincere nurse will realise that there are many opportunities in our hospitals to express their drives, and that careful statistical data is of very great value.

### ADMINISTRATION.

Quarterly Conferences of Medical Superintendents were convened during the past year, and at these conferences these officers were able to hold discussions with the Director-General of Health and Medical Services and with the Under Secretary. There is no doubt that they have proved a worthwhile procedure.

For the first time the matrons of our Mental Hospitals attended the Annual Conference of Matrons of Queensland Hospitals. The matrons were welcomed by their colleagues, and a closer link between general and mental nursing was established.

The medical superintendents hold regular conferences with their executive officers and with the local Hospital Employees' Union representatives. It is hoped that this method of conferring will spread the attitude that the nurse is basically the patient's friend.

The decreasing numbers of experienced and qualified senior staff is causing serious concern. While in no way minimising the valuable work rendered by nursing assistants and temporary nurses, it is difficult to visualise an efficient service without the senior posts filled by permanent officers. A number of female officers are not eligible to train, but during the past year it was arranged that assistants could apply for permission to train. In this way the number of qualified staff is likely to be increased.



The kitchens, laundries and services generally of all the hospitals have been improved by added equipment and re-organisations.

At the Brisbane Mental Hospital the office of Staff-Clerk was established. It has been found that the increasing complexities of industrial awards has made the rostering and other contingent factors very difficult. They were also absorbing a great deal of the time of the nursing supervisors. It is hoped that these officers will now be able to function as the supervisors of the nursing in this large hospital.

## BRISBANE MENTAL HOSPITAL.

Medical Superintendent: C. R. BOYCE,  
M.B. Ch.M. (Syd.).

Many things have been done during the year and in many ways have the patients benefited as will be seen in subsequent paragraphs; but the reverse of this pleasant picture is presented in mounting costs, and it is inescapable that growth and progress mean augmentation of the contingency budget to be submitted for the next year.

### 1. PATIENTS.

During the year the average daily population was 2,484, as compared with 2,440 last year.

There were 945 total admissions of whom 283 were senile and 77 were congenitally mentally deficient.

There were 302 deaths and 639 discharges; so that a relatively high total percentage (68 per cent.) were returned to normal social life by treatment, in those possibly amenable to treatment.

#### (a) Treatment.

A total of 10,293 electro-therapy administrations were effected (10,321 last year) and insulin coma therapy given to 82.

Largactil and Serpasil were extensively used and Pacatal is at present under trial.

The greatest benefit in these drugs seems to be in chronic cases whereby habits and behaviour are improved, agitation is lessened, nursing of them is easier and a few quite unexpectedly have recovered sufficiently to be discharged and a number unexpectedly have attained leave.

A reflection of their general benefit may be a fair deduction by a comparison of E.C.T. administrations and of leaves and discharges granted for the years 1954-55 (without drugs) and 1955-56 (with drugs).

			1954-5.	1955-6.
E.C.T.	..	..	10,321	10,293
Leave ..	..	..	1,417	2,081
Discharge	..	..	498	639
Population	..	..	2,440	2,484

#### (b) Occupational Therapy.

A real advance may be claimed in this activity in that an experiment by extending it into a security female ward was wholly successful without any increase of nursing staff to the ward.

Aggressive and refractory patients were encouraged by example and the availability of handicraft work to participate in this therapy. The improvement in behaviour was notable.

#### (c) Recreations and Entertainment.

The high standard of last year has been maintained and the policy of obtaining the maximum use of extensive recreational facilities is a major task for the next year.

A large variety of recreations is available to patients of both sexes; concerts, pictures and dances are well patronised; the Fancy Dress Ball was a huge success; religious functions were conscientiously carried out; motor bus picnics for female patients, for male work parole patients and for ex-servicemen and repatriation cases are popular, and throughout the year there were afternoon tea parties, Mother's Day observance and dinners, and a host of appropriate functions at Christmas Time.

Thanks are gratefully extended to the representatives of various religious denominations who tend to the patients' spiritual wants, and to Mrs. Bestman, the C.W.A., the Salvation Army Band, the hospital concert party, Mrs. Kelly, the Seventh Day Adventists, the Scripture Gift Mission, Monty Bloom's Concert Party, Silver Hut, Mrs. Smibert, the Presbyterian Fellowship Council, Red Cross, Department of Repatriation, R.S.S.A.I.L.A., S. Jeffries, Y.M.C.A. Concert Party, Stariders Vaudeville Revue Co., Enterprise Theatre Co., Mrs. Beckman, Pirates Softball Club, and the Queensland Mental Welfare Association for their unselfish and generous gifts of time and goods

#### (d) Clothing.

Departmental interest has been very active and improvements in patients' clothing and staff uniforms have been continuous and appropriate for the various seasons.

#### (e) Food.

Very extensive and expensive improvements and enlargements have been effected in the main kitchen; much new machinery and equipment has been added; patient labour within the kitchen has been abolished by additions to the permanent staff. The infusion of new ideas by the appointment of a supervising chief cook has resulted in the attainment of the seemingly impossible—an adequate, varied, and attractively cooked and served diet to some 2,400 patients from one kitchen unit.

### 2. BUILDINGS AND GROUNDS.

A major feature of the past year has been the occupation of Ward A of Farm Colony Area. A magnificent building, modern in every detail to accommodate very comfortably some 75 patients, in a literally spectacular situation, is now temporarily and partly filled by about 50 C.M.D. boys, some from Ipswich Mental Hospital, and some from our own crowded Ward 4.

Adjacent to Ward A, Ward B rapidly nears completion and the cafeteria block comprising kitchen, dining room and commodious luxurious recreation room is practically ready for full functioning.



The latter is equipped with billiard table, piano, appropriate mural decorations, lounges and easy chairs, and a portable moving picture projector.

Female Wards 1 and 2 have been extensively improved by the addition of new upstairs bathing and toilet facilities, and by new clothing store rooms and nurses' day rooms downstairs.

Hookworm contamination areas are being progressively abolished by cementing airing courts.

The two wards have been painted. Attractive table cloths, linoleum on the floors, window curtains, and modern Australian scenes and paintings on the walls, have transformed these wards.

A start has been made by Public Works Department upon a large and attractive waiting room for visiting relatives at "No. 9 Gate." It is here that public access is available to the cricket ground and male recreation area, and is more or less a central or focal point for most of the male wards.

Female 12 Ward, another of the very old originals, is undergoing a restorative repair process.

The hospital grounds generally are well kept. Spontaneous appreciation from visitors and from people who have not seen them for some time is very pleasing.

Extensive pioneer gardening work is in progress at the farm colony area.

Car parking is quite an administrative problem as more and more of an enlarging staff acquire motor vehicles, and the added influx on visitors' days makes the difficulty quite acute.

### 3. STAFF.

A paucity of medical officers persists and there remains a preponderance of untrained nursing staff on the female division.

Male establishment remains steady and in both divisions a satisfactory result was obtained in final examinations.

A very pleasant graduation ceremony was held early this year and it will henceforth be an annual function.

During the year Dr. B. G. Burton-Bradley through Departmental co-operation, obtained his Diploma in Psychological Medicine.

A very welcome acquisition has been provided by Doctors Irene and George Waga who have come to us from England.

### WACOL REPATRIATION PAVILION.

This small community of ex-servicemen, an integral part of, yet quite distinct from, the main Brisbane Mental Hospital, lead a placid and easy life, having special advantages of their own but yet able to partake in amenities provided by the hospital proper.

The Department of Repatriation closely watches the interests of its own cases there, especially with regards to clothing and pensions,

and officers from that Department carry out regular tours of inspection. In addition to visits from Queensland officials, General Wootton, the Chief Medical Officer, and the Senior Psychiatrist also visited the Pavilion.

Games of cricket and tennis between the pavilion inmates and Repatriation General Hospital patients are organised by their recreations officer and motor transport, meals, refreshments, &c., are provided.

Each of the three open ward blocks have a lawn in front and materials have been provided for bowls, croquet, and golf.

The two permanent gardeners, besides providing flower beds, well kept and large lawn areas, and neatly trimmed shrubs, look after the bowls, croquet, and golf greens which are appreciated and well patronised by the patients.

The method of cooking and of serving food is still proving very satisfactory.

The physical health of the patients is consistently good.

Local entertainment is provided by a portable talkie machine in the theatre of B Block twice weekly and professional concert parties come monthly.

Besides, these patients have the opportunity of attending dances, pictures, dinners and concerts at the main hospital recreation hall.

The Goodna R.S.L. sub-branch sponsors five dinners cum concert annually and motor bus seaside picnics each month for all available ex-servicemen and Repatriation subsidises the sub-branch for those patients for whose psychiatric treatment it is responsible.

The Annual Anzac Memorial Ceremony was a most impressive one this year, well organised and well attended by patients from the whole hospital and by relatives. The Ipswich Model Brass Band gave musical renderings, which were very much appreciated.

The repatriation pavilion with an average population of 95, is a fairly active unit, and during the year there were 58 admissions, 7 transfers and 34 discharges.

### TOOWOOMBA MENTAL HOSPITAL.

Medical Superintendent: J. H. B. HENDERSON, M.B., B.S. (Syd.).

Modern medical discoveries and the desire to further the outlook and treatment of mental patients are instrumental in improvements in individual institutions each year, and perhaps the most significant advance here this year is the more general use of the newer anæsthetic drugs which, though not destined to cure all patients, are proving to be invaluable clinically in overcoming or ameliorating many ill effects of mental sickness.

More material improvements have been numerous, perhaps the chief being the modernising of the sculleries in six wards, which work,



though not yet completed, is sufficiently far advanced to indicate the high standard of the design and fittings. This work is only the beginning of extensive modernising of all the sculleries and bathrooms.

The female hairdressing salon is now complete and functioning in such a manner that it provides the patients with much happiness and a new interest, thus enhancing their prospects of cure or at least of social adjustment.

The artisans accommodation block comprising dining and dressing rooms, showers and lavatory has also been constructed and is now in use, though not yet completely furnished. Brighter colours have been used in its painting as also in various wards where our painters are employing a colour harmony which is soothing and pleasing to the eye.

A new washing machine and hydro extractor have been installed in the laundry, the modernising of which is being planned as great difficulty is being experienced at times in maintaining the turnover at a satisfactory level.

The new 16-mm. projector is providing those patients who, for various reasons, are unable to attend the recreation hall, with entertaining movies within the wards.

With the acquiring of the 16-mm. projector, periodical film evenings of an instructive nature have been commenced for the benefit of the nursing staffs, these films being provided gratis by various drug firms.

The State Mobile Chest X-ray unit recently visited the hospital and although so far investigations are not yet complete, they give promise of being very satisfactory, with the likelihood of only a very few active cases of tuberculosis being confirmed.

The summer community concerts introduced last year are proving extremely popular, and recently, with the permission of the Honourable the Minister and the co-operation of Station 4GR, community items, and solos by a number of the more talented patients, were broadcast over the air. This venture was highly successful and attracted a considerable amount of favourable publicity in the district.

The many other forms of entertainment for the patients continue and we are very grateful to the various local bodies who so kindly gave their time to provide such a variety of recreation.

With an increase in the number of juvenile admissions, more outside interest has been taken in the children and now particularly at the Christmas period very generous provision is made by outside bodies to entertain them with parties, concerts, car drives and toys. Members of the nursing staff are also very kind to these children and frequently give them outings and gifts.

The Willowburn Branch of the Q.C.W.A. who are so active in these entertainments, now also provide weekly handicraft classes which are very helpful to selected patients. However, it is to be regretted that so far we have not been able to acquire a qualified occupational therapist.

As was the case with Brisbane and Ipswich Mental Hospitals, last year graduates were provided with an appropriate ceremony in the recreation hall and this was highly successful, the Director General of Health and Medical Services presenting the certificates to the successful nurses.

The usual staffing difficulties on the female division are still present. However, a satisfactory standard of nursing is being maintained. The male division is kept up to its establishment without difficulty and with a few exceptions I can speak well of their care and devotion to our patients.

As usual, over fifty per cent. of our admissions were voluntary patients and although it is our aim to make the appropriate wards for these patients as attractive and homely as possible in order to facilitate early treatment and recovery, we have not forgotten the less fortunate ones for whom at times we cannot be so selective.

Extremely prolonged wet weather tended to interfere with our vegetable production during the year, but on the other hand it was responsible for a record year for the dairy herd which produced over fifty-six thousand gallons of milk during the twelve months.

Three afternoons per week are being devoted to our Psychiatric Clinic at the General Hospital and the sessions are always crowded. Weekly lectures on mental sickness, particularly from a nursing point of view, are given over a period of about three months to the second year nurses at the General Hospital in the hope that they will be familiarised with those psychological conditions which are so frequently connected with physical disorders.

Quite a number of reports on inmates of the Westbrook Farm Home for Boys have been made during the year, whilst other Departments such as the Police and Education have availed themselves of our Psychiatric and Psychological advice.

Those of our children who are suitable attend the school attached to the Rockville Epileptic Home and frequently are included in entertainments provided for that Home.

## IPSWICH MENTAL HOSPITAL.

Medical Superintendent:

J. A. HEDE, M.B., B.S. (Melb.).

A further increase in child admissions during the past year has necessitated alterations in accommodation within the Female Division. Twenty adult female patients were transferred to the Toowoomba Mental Hospital, vacating Ward 3 which has now been taken over as an additional children's ward. Structural alterations in Ward 4 have increased accommodation for children in this ward. With the addition of another children's ward it will now be possible to further classify these young patients, and this will ultimately be taken over as a special ward for convalescent children. The Hospital ward has been almost entirely taken over for



babies and sick children, and additional facilities have been provided for food preparation and bathing.

The accommodation of children in the Boys' Ward has been improved somewhat with the transfer of certain ambulatory children to the Brisbane Mental Hospital Farm Colony. However, it would appear that additional accommodation will be required to relieve the overcrowding in Male Ward 3.

The Department of Public Works has erected new buildings and work is expected to commence soon on the new female ward. New shelter sheds are proposed in several wards, a visitors' enclosure in Male Wards 2 and 3, and a recreation area is planned for the Boys' Ward. Conditions in the female wards will be improved by enclosing various verandahs.

In the criminal ward, a search area and enclosure has been provided, and the ward yards have been equipped with emergency flood lighting. Films are shown regularly in this ward and are greatly appreciated by the patients confined to this ward.

Canteen services are gradually extending and the preparation and delivery of food and rations have been excellently maintained.

Regular entertainments have been provided in the form of films, dances, concerts and bus trips. The R.S.S.A.I.L.A. Sandy Gallop Sub-branch members have taken returned servicemen on regular outings and provided dinners and a Christmas party.

The Country Women's Association, Red Cross, and St. Vincent de Paul Society have regularly visited and provided entertainment and comforts for the patients. Visiting clergy have given regular religious services. *The Courier Mail* Toy Fund donated gifts to the children, and toys were donated by the Brisbane Mental Hospital Occupational Therapy Centre. Miss Hinton and party provided entertainment for the children at Christmas, and several visiting concert parties presented entertaining concerts.

Recruitment of trainees is still disappointing, and an appreciable number of the female staff are assistant nurses. There has been a shortage of male staff for a considerable time.

Additional artisan staff have been appointed to carry out the many alterations and improvements throughout the hospital and to handle the increased maintenance. An artisans' change and dining room have been equipped and are now in use.

Additional laundry and kitchen staff have been appointed, and it is now apparent that the proposed extensions to the laundry and kitchen are urgently needed. The laundry turnover has increased considerably with the increase in younger patients, and additional drying equipment will be needed to handle the extra work.

The appointment of a resident medical officer has been approved, but the position has not yet been filled. A relieving medical officer now visits the hospital on alternate week-ends.

It is with regret that the death of Deputy Charge Nurse T. R. Haines on 27th October, 1955, is reported.

#### CHARTERS TOWERS MENTAL HOSPITAL.

Visiting Medical Officer: J. E. ROBINSON, M.B., B.S. (Q'ld).

Since the opening of the Charters Towers Mental Hospital when the units then completed included the administration block, together with the male and female admission wards, steady progress has been maintained by the Department of Public Works in the erection of the general kitchen and two additional male wards. As these buildings are nearing completion, and with provision having been made for a convalescent ward, we are steadily approaching the stage where the hospital can be classed as a unit within the framework of the Mental Hygiene Service where improved classification of the patients will result, and so specialisation in treatment to particular wards by medical officers will be possible. This classification and specialisation is held to be of paramount importance in modern psychiatry, and to the extent that each patient should be considered as an individual case.

During the year the building of a farm machinery shed for the housing of farm implements was completed, together with a garage for the hospital motor truck. An extensive sewerage system is in the course of construction, and it is expected that a high-level tank for fire fighting purposes will soon be commenced.

There was a total of 95 patients under treatment during the past year; the average number daily resident was 65. The patients admitted were residents from northern regions of the State. There was a range of different nationalities with approximately half of the admissions having been born in Queensland. The ages of the patients admitted ranged from 20 to 80, the number of single persons being almost equal to those who were married, and the occupations covered a wide range.

The most common types of mental sicknesses suffered by the patients admitted were the organic reaction and schizophrenia reaction types. Fourteen patients (8 senile dementia and 6 alcoholic psychosis) are listed under the first heading, while 13 patients are included in the schizophrenia reaction group. There were nineteen patients discharged as recovered during the year, the recovery rate based on the patients admitted was 54.29 per cent. If the senile and mental deficient patients were excluded from these figures the recovery rate would be 73.1 per cent. Five deaths occurred during the year.

The hospital's gratitude is extended to the representatives of religious denominations who tend to the patients' spiritual wants, and to the Red Cross Society, Returned Soldiers' League, Towers Pastoral Association, Combined Sporting Association, members of the Excelsior Band and the various concert parties who visit the hospital, and to the Pensioners' League for the generous gifts of reading material to the patients here.



With the recent installation of a 16-mm. projector a rather extensive programme of indoor entertainment has been built up for the patients. Wireless sets, playing cards, quoits, draughts, chess, and table tennis sets are contained in both wards. A billiard table is included in the male admission ward, and a piano has been supplied for the female admission ward. Concert parties have been arranged from time to time by local artists. Daily newspapers and periodicals are also supplied. Arrangements have been made for the supply of a 200-book library by the Red Cross Society. Outside recreational interests for the patients are planned in the form of monthly motor bus outings and the provision of sporting equipment.

The development of the cultivation and orchard sections in the farm area is proceeding. Twenty tons of pumpkins are now stored as the result of a catch crop in the cultivation area. Supplies of pumpkins are sent to the Charters Towers Eventide Home, and General Hospital weekly, and are collected by the Townsville General Hospital as required. Following a visit by the soil conservationist from the Department of Agriculture and Stock waterways leading from the cultivation section are being grassed; this work will be followed by the building of contour banks for the purpose of preventing soil erosion. It is felt that with a sufficient supply of water, crops of certain lines of vegetables could be grown to meet the demands of Government institutions here throughout the year.

Over 200 citrus trees are now contained in the orchard section, and supplies of oranges, lemons, and grapefruit will be available for supply to the various institutions over the coming seasons.

A reference library has been instituted at this hospital which contains certain booklets on Anatomy and Physiology and Medical Nursing which are being utilised to instruct the male assistants in the fundamentals of nursing. This step has been taken as a prelude to the establishment of a training school here which will follow with the further development of the hospital.

During the year an 8-inch water main was laid down by the City Council for an increased pressure in the supply of water to the hospital. An extension to the pipe lines inside the grounds is now planned so as to enable the extension of our beautification scheme in accordance with the building scheme, and further development of the hospital.

## EPILEPTIC HOME.

Superintendent: E. G. KENYON.

There was a total of 118 patients under treatment during the year, a record for the home since its opening in 1917. There were 17 applications received for admission and all were admitted. Seven patients were discharged. Three were certified and admitted to the

Toowoomba Mental Hospital; one was admitted voluntarily. One male patient died.

As stated previously by the visiting medical officer from a therapeutic point of view one is at a disadvantage, since many patients in residence are either aments or have over a period of years, run the gamut of therapy, and are already in some state of mental deterioration. Nevertheless, newer drugs such as Mesantoin and Mysolin are being tried and beneficial results are frequently seen in the patients. While it is desirable that children be admitted rather than older types of epileptics, the admission of the younger age group casts a heavier burden on those in charge. Most of the younger admissions of late are a problem type. Segregation of the under 16 age group is a question that will have to be considered in the future.

Painting of the interior of the home has now been completed. Modern colour schemes have been chosen with very good taste; a different scheme being designed for each ward. A modern scheme of lighting would enhance the work of the painters and be of great comfort to patients.

General health of patients during the year was good. Teeth have been attended to; optical requirements supplied where necessary.

All adult patients are invalid pensioners. After payment for maintenance, the patient has ample reserve for clothing, pocket money, and amenities. Child endowment provides adequately for the children.

The head teacher of the Home school reports that the average quarterly enrolment of the year ending June, was 31.75. Present enrolment of 16 boys and 14 girls, include 6 children from the Toowoomba Mental Hospital.

Apart from spasmodic periods of mental depression owing to greater or lesser degree of convulsive seizures, the children enjoy reasonably good physical health. Regular habits of rest, food, and medication, with indoor entertainment and bus outings contribute largely to this.

Looking back over past records, it is gratifying to record at least five pupils who have gone through Sixth Grade work, probably because of having proceeded at their own pace in an environment suited to their temperament. These children are now capable of adjusting themselves in their home and family life, and are usefully and gainfully employed. Another has been employed as gardener with the same firm for several years. Still another boy able to live at home, is working at a near-by establishment and capable of paying his share in family finances. Naturally the majority of pupils—through the intensity of their malady—may become permanent residents of this home, but, if, as such, they can express a fuller life by reading, writing to home or friends, doing fancy work, or knitting—however simple these may be—in their leisure time, then, their having attended school has been worthwhile.

It is regretted that the existence of this school as an integral part of the Home is not more widely known. It is believed there must



be many epileptic children in Queensland, who, through their malady, must cause concern to parents and maladjustments with other junior family members. They could benefit by attending this school during school periods, and by returning to their home during vacation periods. Thus they would retain their place as a member of their family. In this way the strain on the Home and the family would be shared.

The Free Milk Scheme, introduced during the year is very popular, and should prove beneficial to the children's general good health.

Farm production has, of necessity, been considerably reduced owing to heavy falls of rain during the early months of the year, 45 inches being recorded. There is serious seepage and it will be some time before the ground is ready for cultivation, winter months adding to the delay.

Cold water fountains are being installed and will be much appreciated during the summer.

A scheme is under consideration to enlarge and modernise matron and nurses' quarters. It is expected that as a result more comfortable accommodation will be provided. This matter is at present in the hands of the Public Works Department.

Tenders have been called for laying of steam pipe line from Toowoomba Mental Hospital to the home. This will be a distinct advantage particularly in the winter, when the wards will be steam heated for the first time. Certain economies will also be effected by the scheme.

Public Works Department was asked during the year for a report on electrical wiring and fittings throughout the home. As a result, a contract has been let for renewals and the work has already commenced.

A large amount of entertainment has been provided for patients during the year, and this, together with an ample and well prepared diet, has made life happier. Entertainment consisted of bus trips, concerts, band recitals, parties, movies, and dances. All these amenities are eagerly looked forward to and are much appreciated. Frequent visits to town by patients who are considered well enough to go alone, are availed of. These visits during the year were without incident.

Approval has been granted for the appointment of an additional laundress; this appointment will relieve patients of ironing duties at the laundry.

Many letters and expressions of thanks are received from relatives for attention to patients. This is much appreciated for it is no mean task to have to care for these under privileged people. The staff do a good job under, very often, trying conditions.

#### PSYCHIATRIC CLINIC.

During this year the reorganisation foreshadowed in the previous report was carried out. The team approach to case work has been tested thoroughly and proved to be effective.

Patients are now handled as follows: All new cases are first seen by a welfare officer who secures an outline of the symptoms or complaints and arranges the necessary appointments. Adult patients are interviewed by a psychiatrist who takes a history and decides on treatment, which may involve further referrals, for psychological testing or speech therapy.

Parents of child patients are interviewed by a psychologist who takes a full clinical history. The child is then examined psychologically, as necessary, or interviewed. The case is presented to a meeting of the Child Guidance Team led by Dr. Goldman. Both parent and child are interviewed at this conference, and treatment is decided. The cases are reviewed thereafter in conferences at three-monthly intervals. It is hoped that the records of these procedures will in time offer information on the effectiveness of prognoses and treatments in respect of different conditions and symptoms.

The psychiatrist co-ordinates the handling of speech cases through a systematic procedure involving regular conferences to determine treatments (psychiatric, medical, and speech) and to consider reviews of treatments.

At staff seminars which are held weekly, individual members of staff present papers on psychiatric topics. Attention has been concentrated in these seminars on the techniques and effectiveness of psychotherapy.

Several groups of students from outside organisations, e.g., senior psychology students and social science students of the University of Queensland, short-course teaching students from the Faculty of Education, students of the Sub-normal Children's Welfare Centre (Bowen Hills), and Kindergarten Training College students, have been given an orientation to the work of the clinic through discussions and observation sessions. Two students reading for Honours in Psychology have spent a full fortnight in the clinic, observing and participating, as a curricular requirement.

The increase in the total number of patients handled during this year is mainly owing to the improved staffing of psychiatrists. Speech therapy cases decreased in number because of the temporary absences of staff and the different orientation toward speech cases under the psychiatric team approach.

A modified system of classifying registered patients has been adopted. This employs a wider concept of the social effects of psychological disorders. For future research purposes note is being taken of social, economic, and educational factors in each case. Ratings, based on defined criteria, of the severity of symptoms on admission and discharge are made, and these coupled with detailed note of therapies employed, should yield valuable information when sufficient data have accumulated.

Referrals from private psychiatrists and other specialists have almost doubled. This is due in part to the growing awareness amongst practitioners of the functions and capacity of this clinic.



TABLE LXXIII.

QUEENSLAND MENTAL HOSPITALS.

SHOWING ADMISSIONS, READMISSIONS, DISCHARGES AND DEATHS, DURING THE YEAR ENDED 30TH JUNE, 1956.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.		Totals.			
	Males.		Totals.	Males.		Totals.	Males.		Totals.	Males.		Totals.	Males.		Totals.
		Females.			Females.			Females.			Females.			Females.	
On the Books of the Hospitals on 1st July, 1955															
Admitted for the first time	1,348	1,325	2,673	630	622	1,252	389	217	606	60	2,427	2,164	4,591		
Readmitted	386	383	769	74	48	122	46	30	76	34	540	461	1,001		
	100	76	176	23	22	45	1	1	2	1	125	99	224		
Totals All Hospitals	1,834	1,784	3,618	727	692	1,419	436	248	684	95	3,092	2,724	5,816		
Transferred from Brisbane	..	..	..	..	16	16	4	..	4	..	4	16	20		
Transferred from Toowoomba	..	5	5	..	..	..	1	1	2	..	1	6	7		
Transferred from Ipswich	17	..	17	..	20	20	..	..	..	..	17	20	37		
Transferred from Charters Towers	..	..	..	..	..	..	..	..	..	..	..	..	..		
*Total number under care during the year	1,851	1,789	3,640	727	728	1,455	441	249	690	95	3,114	2,766	5,880		
Discharged—															
Recovered	226	230	456	20	29	49	6	..	6	17	269	259	528		
Section 49	23	38	61	..	4	4	4	..	4	1	28	42	70		
Relieved	21	27	48	30	21	51	2	1	3	..	53	49	102		
Not Improved	25	8	33	11	6	17	2	5	7	..	38	19	57		
Voluntarily left	32	9	41	..	..	..	..	..	..	1	33	9	42		
Died	152	150	302	30	41	71	10	12	22	5	197	203	400		
Total Number Discharged and Died	479	462	941	91	101	192	24	18	42	24	618	581	1,199		
Transferred to Brisbane	..	..	..	..	4	4	17	..	17	..	17	4	21		
Transferred to Toowoomba	..	17	17	..	..	..	..	20	20	..	..	37	37		
Transferred to Ipswich	4	..	4	1	1	2	..	..	..	..	5	1	6		
Transferred to Charters Towers	..	..	..	..	..	..	..	..	..	..	..	..	..		
Total number discharged, died, &c., during year	483	479	962	92	106	198	41	38	79	24	640	623	1,263		
Remaining on Books of Hospitals on 30th June, 1956	1,368	1,310	2,678	635	622	1,257	400	211	611	71	2,474	2,143	4,617		
Average Number Daily Resident	1,281	1,203	2,484	621	596	1,217	390	214	604	65	2,357	2,013	4,370		
Number on leave of absence on 30th June, 1956	65	126	191	19	19	38	1	2	3	1	86	147	233		
Proportion of Mentally Sick to each 1,000 of population as at 31st December, 1955	..	..	..	..	..	..	..	..	..	..	3.60	3.29	3.45		
Proportion of Admission per 10,000 of population for year ended 31st December, 1955	..	..	..	..	..	..	..	..	..	..	9.68	8.59	9.15		

\* These totals include interhospital transfers.

TABLE LXXIV.

ADMISSIONS, DISCHARGES, AND DEATHS, WITH THE PROPORTIONS OF RECOVERIES AND DEATHS PER CENT. DURING THE YEAR ENDED 30TH JUNE, 1956.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Males.	Fe-males.	Totals.
Total Admissions ..	486	459	945	97	70	167	47	31	78	35	665	560	1,225
*Discharged—													
Recovered ..	281	277	558	20	30	50	6	..	6	19	326	307	633
Relieved ..	21	27	48	30	24	54	6	1	7	..	57	52	109
Not Improved ..	25	8	33	11	6	17	2	5	7	..	38	19	57
Died ..	152	150	302	30	41	71	10	12	22	5	197	203	400
Average Number													
Daily Residents ..	1,281	1,203	2,484	621	596	1,217	390	214	604	65	2,357	2,013	4,370
Percentage of Recoveries on Admissions ..	57.82	60.35	59.05	20.61	42.85	29.94	12.76	..	7.69	54.29	49.02	54.82	51.66
Percentage of Patients Relieved on Admissions ..	4.32	5.88	5.08	30.92	34.28	32.33	4.25	3.23	3.84	..	8.57	9.28	8.89
Percentage of Deaths on Average Number Resident ..	11.87	12.47	12.16	4.83	6.87	5.83	2.56	5.60	3.64	7.69	8.35	10.08	9.15

\* For the purposes of this table patients discharged under Section 49 (3) and Voluntarily Left have been classified under these headings.

TABLE LXXV.

FORMS OF MENTAL DISORDERS IN PATIENTS ADMITTED DURING THE TWELVE MONTHS ENDED 30TH JUNE, 1956.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Males.	Fe-males.	Totals.
1. AFFECTIVE REACTION TYPES—													
(a) Manic Depressive Psychosis ..	13	21	34	..	..	..	1	..	1	1	15	21	36
(b) Mania ..	8	7	15	..	1	3	..	..	..	1	11	8	19
(c) Depression ..	14	24	38	5	9	14	..	..	..	2	21	33	54
Reactive Depression ..	1	2	3	3	..	3	..	..	..	..	4	2	6
Recurrent Depression ..	2	1	3	..	4	4	..	..	..	..	2	5	7
Hypomania ..	3	8	11	1	1	2	..	..	..	..	4	9	13
(d) Involution Depression ..	5	13	18	1	2	3	..	..	..	..	6	15	21
2. SCHIZOPHRENIC REACTION TYPES—													
(a) Schizoid Personality ..	..	..	..	2	1	3	..	..	..	..	2	1	3
Schizophrenia ..	115	125	240	22	18	40	3	..	3	6	146	143	289
(b) Paraphrenia ..	12	19	31	4	3	7	1	..	1	2	19	22	41
Catatonia ..	1	..	1	..	..	..	..	..	..	..	1	..	1
(c) Paranoid Reaction ..	12	6	18	3	..	3	..	..	..	5	20	6	26
3. ORGANIC REACTION TYPES—													
(a) Organic Dementia ..	4	4	8	..	..	..	..	..	..	..	4	4	8
Organic Psychosis ..	14	7	21	2	1	3	..	..	..	..	16	8	24
Hydrocephalus ..	..	..	..	..	..	..	2	..	2	..	2	..	2
Kernicterus ..	..	..	..	..	..	..	..	1	1	..	..	1	1
Cerebral Tumour ..	..	..	..	..	..	..	1	..	1	..	1	..	1
(b) Toxins—													
Acute Alcoholism ..	7	..	7	5	..	5	..	..	..	..	12	..	12
Alcoholic Hallucinosi ..	6	..	6	2	..	2	1	..	1	..	9	..	9
Alcoholic Psychosis ..	6	..	6	1	..	1	3	..	3	6	16	..	16
Alcoholic Psychosis (Kor-sakov's) ..	6	..	6	1	..	1	..	..	..	..	7	..	7
Cerebral Syphilis ..	6	..	6	1	..	1	..	..	..	..	7	..	7
Acute Confusional Psychosis ..	..	..	..	1	..	1	..	..	..	..	1	..	1
(c) Arteriosclerotic Dementia ..	14	7	21	..	1	1	..	..	..	..	14	8	22
Arteriosclerotic Psychosis ..	15	14	29	..	2	2	..	..	..	..	15	16	31
Presenile Dementia ..	1	1	2	1	..	1	..	..	..	..	2	1	3
Presenile Psychosis ..	..	2	2	..	..	..	..	..	..	..	..	2	2
Senile Dementia ..	94	94	188	3	6	9	..	..	..	8	105	100	205
Senile Psychosis ..	17	24	41	1	..	1	1	..	1	..	19	24	43
4. EPILEPTIC REACTION TYPES—													
Epileptic Psychosis ..	8	4	12	1	1	2	..	..	..	1	10	5	15
Epilepsy ..	6	3	9	2	1	3	..	..	..	..	8	4	12
5. PSYCHONEUROTIC REACTION TYPES—													
Psychoneurosis ..	5	10	15	1	3	4	..	..	..	..	6	13	19
Anxiety State ..	5	5	10	3	2	5	..	..	..	..	8	7	15
Hysteria ..	..	..	..	1	3	4	..	..	..	..	1	3	4
Obsessive ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Neurasthenia ..	..	1	1	1	..	1	..	..	..	..	1	1	2
6. MENTAL DEFICIENCY—													
(a) Mental Deficiency ..	25	26	51	6	2	8	..	..	..	..	31	28	59
With Epilepsy ..	4	4	8	1	1	2	3	7	10	..	8	12	20
Moron ..	..	2	2	..	2	2	..	..	..	..	..	4	4
Mongol ..	..	1	1	1	1	2	14	5	19	..	15	7	22
With Schizophrenia ..	2	6	8	..	2	2	1	..	1	..	3	8	11
(b) Idiocy ..	1	2	3	..	..	..	4	10	14	..	5	12	17
(c) Postencephalitic Idiocy ..	..	..	..	..	..	..	2	1	3	..	2	1	3
(d) Microcephalic Idiocy ..	..	..	..	..	..	..	1	1	2	..	1	1	2
(e) Imbecility ..	3	1	4	5	..	5	7	6	13	1	16	7	23
7. ADDICTION—													
Chronic Alcoholism ..	30	7	37	12	1	13	..	..	..	..	42	8	50
Drug ..	..	..	..	2	1	3	..	..	..	..	2	1	3
8. PSYCHOPATHIC PERSONALITY	18	7	25	..	1	1	2	..	2	..	20	8	28
9. TRAUMATIC PSYCHOSIS ..	3	..	3	..	..	..	..	..	..	2	5	..	5
Totals ..	486	459	945	97	70	167	47	31	78	35	665	560	1,225



TABLE LXXVI.

CAUSES OF DEATHS WHICH OCCURRED DURING PERIOD ENDED 30TH JUNE, 1956.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Fe- males.	Totals.	Males.	Fe- males.	Totals.	Males.	Fe- males.	Totals.	Males.	Males.	Fe- males.	Tota.s.
GENERAL DISEASES—													
Carcinoma of Stomach ..	..	..	..	..	..	..	1	..	1	..	1	..	1
Phosphorous Poisoning ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Carcinoma of Breast ..	..	1	1	..	1	1	..	..	..	..	..	2	2
Carcinoma of Pharynx ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Carcinoma of Larynx ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Angioneurotic Oedema ..	..	1	1	..	..	..	..	..	..	..	1	..	1
Gangrene ..	2	..	2	..	..	..	..	..	..	..	2	1	1
Compression Paralytica ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Septicaemia ..	2	..	2	..	..	..	..	..	..	..	2	..	2
Typhoid Fever ..	..	..	..	..	2	2	..	..	..	..	..	2	2
Marasmus ..	..	..	..	..	..	..	3	..	3	..	3	..	3
DISEASES OF NERVOUS SYSTEM—													
Cerebral Degeneration ..	11	2	13	1	2	3	3	3	6	..	15	7	22
Cerebral Thrombosis ..	3	9	12	..	2	2	..	..	..	2	5	11	16
Cerebral Haemorrhage ..	3	1	4	1	..	1	..	..	..	..	4	1	5
Cerebral Arteriosclerosis ..	3	2	5	..	..	..	..	..	..	..	3	2	5
Dementia Paralytica ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Epileptic Psychosis ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Status Epilepticus ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Cerebral Embolism ...	..	..	..	1	..	1	..	..	..	..	1	..	1
DISEASES OF CIRCULATORY SYSTEM—													
Cardio Vascular Degeneration	53	71	124	6	7	13	..	..	..	..	59	78	137
Coronary Occlusion ..	6	8	14	2	4	6	..	..	..	1	9	12	21
Congenital Morbus Cardis ..	..	..	..	..	1	1	..	..	..	..	..	1	1
Acute Myocarditis ..	..	..	..	2	..	2	..	..	..	..	2	..	2
Myocardial Degeneration ..	9	6	15	5	3	8	..	1	1	1	15	10	25
Auricular Fibrillation ..	4	7	11	..	..	..	..	..	..	..	4	7	11
Congestive Cardiac Failure ..	19	7	26	1	3	4	..	..	..	..	20	10	30
Left Ventricular Failure ..	6	2	8	1	4	5	..	..	..	..	7	6	13
DISEASES OF RESPIRATORY SYSTEM—													
Broncho Pneumonia ..	7	7	14	4	4	8	..	6	6	..	11	17	28
Lobar Pneumonia ..	..	1	1	..	..	..	2	1	3	..	2	2	4
Basal Pneumonia ..	..	..	..	..	2	2	..	..	..	..	..	2	2
Terminal Pneumonia ..	8	7	15	..	..	..	..	..	..	1	9	7	16
Hypostatic Pneumonia ..	1	6	7	..	..	..	..	..	..	..	1	6	7
Pneumonia ..	1	3	4	..	..	..	..	..	..	..	1	3	4
Cardiac Asthma ..	5	..	5	..	..	..	..	..	..	..	5	..	5
Pulmonary Tuberculosis ..	2	..	2	1	..	1	1	..	1	..	4	..	4
Lung Abscess ..	..	..	..	..	1	1	..	..	..	..	..	1	1
Carcinoma of Laryun ..	..	..	..	1	..	1	..	..	..	..	1	..	1
DISEASES OF ALIMENTARY SYSTEM—													
Carcinoma of Colon ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Intestinal Obstruction ..	1	..	1	..	1	1	..	..	..	..	1	1	2
Carcinoma of Rectum ..	..	..	..	..	..	..	..	1	1	..	..	1	1
Pancreatic Carcinoma ..	1	3	4	1	..	1	..	..	..	..	2	3	5
Peritonitis ..	..	..	..	1	..	1	..	..	..	..	1	..	1
Primary Hepatoma ..	..	..	..	1	..	1	..	..	..	..	1	..	1
Carcinoma of Caecum ..	..	..	..	1	..	1	..	..	..	..	1	..	1
Chronic Enterocolitis ..	..	..	..	..	2	2	..	..	..	..	..	2	2
DISEASES OF GENITO-URINARY SYSTEM—													
Uraemia due to Chronic Nephritis ..	1	1	2	..	1	1	..	..	..	..	1	2	3
Chronic Nephritis ..	..	..	..	..	1	1	..	..	..	..	..	1	1
Pelvic Neoplasm ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Totals ..	152	150	302	30	41	71	10	12	22	5	197	203	400

TABLE LXXVII.

BODILY HEALTH AND CONDITION OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1956.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Fe- males.	Totals.	Males.	Fe- males.	Totals.	Males.	Fe- males.	Totals.	Males.	Males.	Fe- males.	Totals.
In apparently good health and condition	223	212	435	62	42	104	37	24	61	21	343	278	621
In indifferent health and reduced condition ..	166	161	327	30	20	50	7	5	12	9	212	186	398
In bad health and exhausted condition..	97	86	183	5	8	13	3	2	5	5	110	96	206
Totals ..	486	459	945	97	70	167	47	31	78	35	665	560	1,225

TABLE LXXVIII.

BIRTH PLACES OF PATIENTS ADMITTED DURING PERIOD ENDED 30TH JUNE, 1956.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Males.	Fe-males.	Totals.
Queensland .. ..	261	313	574	60	42	102	23	21	44	19	363	376	739
New South Wales ..	50	42	92	22	14	36	6	2	8	5	83	58	141
Victoria .. ..	17	13	30	1	4	5	1	..	1	..	19	17	36
South Australia ..	5	3	8	..	..	..	1	..	1	..	6	3	9
Western Australia ..	1	1	2	..	..	..	..	..	..	..	1	1	2
Northern Territory ..	..	..	..	..	1	1	..	..	..	..	..	1	1
Tasmania .. ..	4	1	5	1	..	1	..	..	..	1	6	1	7
New Zealand .. ..	2	..	2	..	3	3	..	..	..	..	2	3	5
England .. ..	59	31	90	3	2	5	1	..	1	3	66	33	99
Scotland .. ..	17	11	28	1	1	2	..	..	..	2	20	12	32
Ireland .. ..	10	6	16	1	1	2	..	..	..	..	11	7	18
Wales .. ..	1	1	2	..	..	..	..	..	..	..	1	1	2
India .. ..	3	..	3	..	..	..	..	..	..	..	3	..	3
Norway .. ..	3	..	3	..	..	..	..	..	..	..	3	..	3
Latvia .. ..	1	3	4	..	..	..	..	..	..	..	1	3	4
China .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Denmark .. ..	2	2	4	..	..	..	..	..	..	..	2	2	4
Finland .. ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Lithuania .. ..	2	..	2	..	..	..	..	..	..	..	2	..	2
Germany .. ..	8	2	10	1	..	1	..	..	..	2	11	2	13
Sweden .. ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Italy .. ..	11	3	14	..	..	..	..	..	..	1	12	3	15
Holland .. ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Poland .. ..	2	2	4	..	..	..	..	..	..	..	2	2	4
Sicily .. ..	1	2	3	..	..	..	..	..	..	..	1	2	3
Russia .. ..	3	3	6	..	..	..	..	..	..	..	3	3	6
Hungary .. ..	3	..	3	..	..	..	..	..	..	..	3	..	3
Czechoslovakia ..	2	1	3	..	..	..	..	..	..	1	3	1	4
United States of America ..	1	1	2	..	..	..	..	..	..	..	1	1	2
Unknown .. ..	5	7	12	7	2	9	15	8	23	1	28	17	45
Cyprus .. ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Estonia .. ..	1	..	1	..	..	..	..	..	..	..	1	..	1
British Columbia ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Spain .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Isle of Guernsey ..	..	1	1	..	..	..	..	..	..	..	..	1	1
South Africa .. ..	..	2	2	..	..	..	..	..	..	..	..	2	2
Greece .. ..	1	2	3	..	..	..	..	..	..	..	1	2	3
Ukraine .. ..	2	1	3	..	..	..	..	..	..	..	2	1	3
France .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Manchuria .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
Austria .. ..	2	..	2	..	..	..	..	..	..	..	2	..	2
Java .. ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Ceylon .. ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Totals .. ..	486	459	945	97	70	167	47	31	78	35	665	560	1,225

TABLE LXXIX.

DISTRICTS WHENCE PATIENTS WERE RECEIVED DURING THE YEAR ENDED 30TH JUNE, 1956.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Males.	Fe-males.	Totals.
Northern and North-Western .. ..	41	25	66	..	..	..	1	2	3	35	77	27	104
Central .. ..	48	39	87	1	1	2	5	4	9	..	54	44	98
Southern and South-Western .. ..	397	395	792	96	69	165	41	25	66	..	534	489	1,023
Totals .. ..	486	459	945	97	70	167	47	31	78	35	665	560	1,225



TABLE LXXX.

AGE GROUPS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES, OR DEATHS OCCURRED DURING THE YEAR, AND THOSE WHO REMAINED IN THE HOSPITAL ON 30TH JUNE, 1956.

Age Group.	Admissions.			* Discharges.						Deaths.			Remaining.		
				Recovered.			Relieved and not Improved.								
	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.
BRISBANE MENTAL HOSPITAL.															
Under 5 years .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5 years and under 10 years ..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3
10 years and under 15 years ..	10	5	15	2	1	3	1	1	2	..	..	..	16	4	20
15 years and under 20 years ..	18	15	33	12	11	23	1	2	3	..	..	..	32	12	44
20 years and under 30 years ..	64	52	116	59	41	100	8	3	11	1	5	6	161	78	239
30 years and under 40 years ..	90	90	180	82	75	157	2	6	8	7	3	10	263	227	490
40 years and under 50 years ..	75	76	151	58	59	117	5	5	10	7	8	15	260	247	507
50 years and under 60 years ..	55	47	102	32	42	74	4	5	9	11	9	20	251	298	549
60 years and under 70 years ..	69	59	128	28	34	62	5	5	10	35	27	62	226	217	443
70 years and under 80 years ..	56	74	130	7	11	18	13	4	17	49	55	104	113	144	257
80 years and under 90 years ..	40	39	79	..	3	3	6	3	9	38	39	77	37	77	114
90 years and over .. ..	6	..	6	1	..	1	..	..	..	4	4	8	4	3	7
Unknown .. ..	3	2	5	..	..	..	..	1	1	..	..	..	2	3	5
<b>Totals, Brisbane Mental Hospital .. ..</b>	<b>486</b>	<b>459</b>	<b>945</b>	<b>281</b>	<b>277</b>	<b>558</b>	<b>45</b>	<b>35</b>	<b>80</b>	<b>152</b>	<b>150</b>	<b>302</b>	<b>1,368</b>	<b>1,310</b>	<b>2,678</b>
TOOWOOMBA MENTAL HOSPITAL.															
Under 5 years .. ..	2	1	3	..	..	..	..	..	..	..	1	1	3	4	7
5 years and under 10 years ..	1	..	1	..	..	..	1	..	1	..	..	..	3	2	5
10 years and under 15 years ..	2	3	5	..	..	..	..	..	..	..	..	..	11	6	17
15 years and under 20 years ..	7	2	9	1	2	3	3	1	4	..	..	..	13	11	24
20 years and under 30 years ..	19	11	30	2	4	6	9	6	15	1	1	2	43	35	78
30 years and under 40 years ..	22	10	32	5	4	9	11	8	19	2	..	2	71	45	116
40 years and under 50 years ..	17	14	31	5	10	15	6	5	11	..	4	4	124	106	230
50 years and under 60 years ..	13	11	24	3	4	7	9	3	12	3	1	4	126	163	289
60 years and under 70 years ..	10	10	20	3	5	8	1	3	4	9	10	19	138	152	290
70 years and under 80 years ..	4	5	9	1	1	2	..	2	2	7	15	22	72	77	149
80 years and under 90 years ..	..	3	3	..	..	..	1	2	3	7	8	15	22	14	36
90 years and over .. ..	..	..	..	..	..	..	..	..	..	1	1	2	5	1	6
Unknown .. ..	..	..	..	..	..	..	..	..	..	..	..	..	4	6	10
<b>Totals, Toowoomba Mental Hospital ..</b>	<b>97</b>	<b>70</b>	<b>167</b>	<b>20</b>	<b>30</b>	<b>50</b>	<b>41</b>	<b>30</b>	<b>71</b>	<b>30</b>	<b>41</b>	<b>71</b>	<b>635</b>	<b>622</b>	<b>1,257</b>
IPSWICH MENTAL HOSPITAL.															
Under 5 years .. ..	20	15	35	..	..	..	1	..	1	7	7	14	27	17	44
5 years and under 10 years ..	8	11	19	..	..	..	3	1	4	..	..	..	34	40	74
10 years and under 15 years ..	6	4	10	1	..	1	1	..	1	..	2	2	29	25	54
15 years and under 20 years ..	1	1	2	..	..	..	..	..	..	1	..	1	25	18	43
20 years and under 30 years ..	3	..	3	1	..	1	1	..	1	1	..	1	21	20	41
30 years and under 40 years ..	3	..	3	4	..	4	..	..	..	..	..	..	26	14	40
40 years and under 50 years ..	3	..	3	1	..	1	..	..	..	..	1	1	49	22	71
50 years and under 60 years ..	1	..	1	..	..	..	1	..	1	..	..	..	65	25	90
60 years and under 70 years ..	2	..	2	..	..	..	..	..	..	1	2	3	82	18	100
70 years and under 80 years ..	..	..	..	..	..	..	1	..	1	..	..	..	31	7	38
80 years and under 90 years ..	..	..	..	..	..	..	..	..	..	..	..	..	10	3	13
90 years and over .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Unknown .. ..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2
<b>Totals, Ipswich Mental Hospital .. ..</b>	<b>47</b>	<b>31</b>	<b>78</b>	<b>6</b>	<b>..</b>	<b>6</b>	<b>8</b>	<b>1</b>	<b>9</b>	<b>10</b>	<b>12</b>	<b>22</b>	<b>400</b>	<b>211</b>	<b>611</b>
CHARTERS TOWERS MENTAL HOSPITAL.															
Under 5 years .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5 years and under 10 years ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10 years and under 15 years ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15 years and under 20 years ..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3
20 years and under 30 years ..	5	..	5	3	..	3	..	..	..	..	..	..	6	..	6
30 years and under 40 years ..	2	..	2	2	..	2	..	..	..	..	..	..	10	..	10
40 years and under 50 years ..	10	..	10	10	..	10	..	..	..	..	..	..	15	..	15
50 years and under 60 years ..	5	..	5	1	..	1	..	..	..	2	..	2	13	..	13
60 years and under 70 years ..	6	..	6	2	..	2	..	..	..	1	..	1	15	..	15
70 years and under 80 years ..	5	..	5	1	..	1	..	..	..	1	..	1	7	..	7
80 years and under 90 years ..	2	..	2	..	..	..	..	..	..	1	..	1	2	..	2
90 years and over .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Unknown .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>Totals, Charters Towers Mental Hospital ..</b>	<b>35</b>	<b>..</b>	<b>35</b>	<b>19</b>	<b>..</b>	<b>19</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>5</b>	<b>..</b>	<b>5</b>	<b>71</b>	<b>..</b>	<b>71</b>
<b>Grand Totals, All Hospitals .. ..</b>	<b>665</b>	<b>560</b>	<b>1,225</b>	<b>326</b>	<b>307</b>	<b>633</b>	<b>94</b>	<b>66</b>	<b>160</b>	<b>197</b>	<b>203</b>	<b>400</b>	<b>2,474</b>	<b>2,143</b>	<b>4,617</b>

\*For the purposes of this table patients discharged under Section 49 (3) and Voluntarily Left have been classified under these headings.

TABLE LXXXI.

GENERAL CLASSIFICATION OF OCCUPATIONS OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE 1956.

Occupations.	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Males.	Fe-males.	Totals.
Rural Industries ..	49	..	49	19	..	19	2	..	2	4	74	..	74
Secondary Industries, Trades, &c.—													
Building Construction ..	21	..	21	10	..	10	..	..	..	3	34	..	34
Machinery and Electrical ..	25	..	25	3	..	3	..	..	..	4	32	..	32
Foodstuffs, Meat, &c. .. ..	15	2	17	1	..	1	1	..	1	3	20	2	22
Clothing, Retail, &c.	7	9	16	5	..	5	..	..	..	..	12	9	21
Mining .. ..	4	..	4	..	..	..	1	..	1	..	5	..	5
Transport .. ..	13	..	13	7	..	7	..	..	..	2	22	..	22
Clerical .. ..	23	23	46	6	..	6	..	..	..	2	31	23	54
Domestic Employment .. ..	..	236	236	..	48	48	..	..	..	..	..	284	284
Private Employment .. ..	13	1	14	..	..	..	..	..	..	..	13	1	14
Miscellaneous Employment ..	135	16	151	21	9	30	5	..	5	11	172	25	197
No Occupation, Pensioners ..	166	170	336	23	12	35	2	..	2	6	197	182	379
Professions .. ..	6	2	8	2	1	3	1	..	1	..	9	3	12
Children .. ..	9	..	9	..	..	..	35	31	66	..	44	31	75
Totals ..	486	459	945	97	70	167	47	31	78	35	665	560	1,225



TABLE LXXXII.

MARITAL STATUS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES AND DEATHS OCCURRED DURING THE YEAR  
AND OF PATIENTS WHO REMAINED IN HOSPITAL ON 30TH JUNE, 1956.

Marital Status.	Admissions.			*Discharges.						Deaths.			Remaining.		
				Recovered.			Relieved and not Improved.								
	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.
BRISBANE MENTAL HOSPITAL.															
Single .. ..	245	129	374	157	69	226	26	15	41	55	30	85	1,001	633	1,634
Married .. ..	157	210	367	98	155	253	13	14	27	53	51	104	255	490	745
Widowed .. ..	54	107	161	11	40	51	4	6	10	37	65	102	65	171	236
Divorced .. ..	30	12	42	15	13	28	3	..	3	7	4	11	18	16	34
Unknown .. ..	..	1	1	..	..	..	..	..	..	..	..	..	29	..	29
Totals, Brisbane Mental Hospital	486	459	945	281	277	558	46	35	81	152	150	302	1,368	1,310	2,678
TOOWOOMBA MENTAL HOSPITAL.															
Single .. ..	55	28	83	9	10	19	22	6	28	23	26	49	535	351	886
Married .. ..	38	34	72	11	19	30	16	19	35	5	9	14	69	206	275
Widowed .. ..	3	7	10	..	1	1	2	4	6	1	5	6	12	44	56
Divorced .. ..	1	1	2	..	..	..	1	1	2	..	1	1	5	15	20
Unknown .. ..	..	..	..	..	..	..	..	..	..	1	..	1	14	6	20
Totals, Toowoomba Mental Hospital	97	70	167	20	30	50	41	30	71	30	41	71	635	622	1,257
IPSWICH MENTAL HOSPITAL.															
Single .. ..	39	31	70	3	..	3	7	6	13	10	10	20	325	164	489
Married .. ..	4	..	4	1	..	1	1	..	1	..	1	1	50	31	81
Widowed .. ..	1	..	1	..	..	..	..	..	..	..	..	..	6	8	14
Divorced .. ..	1	..	1	1	..	1	..	..	..	..	..	..	3	7	10
Unknown .. ..	2	..	2	1	..	1	..	..	..	..	1	1	16	1	17
Totals, Ipswich Mental Hospital	47	31	78	6	..	6	8	6	14	10	12	22	400	211	611
CHARTERS TOWERS MENTAL HOSPITAL.															
Single .. ..	16	..	16	10	..	10	..	..	..	..	..	..	49	..	49
Married .. ..	17	..	17	8	..	8	..	..	..	5	..	5	15	..	15
Widowed .. ..	2	..	2	1	..	1	..	..	..	..	..	..	7	..	7
Divorced .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Unknown .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals, Charters Towers Mental Hospital ..	35	..	35	19	..	19	..	..	..	5	..	5	71	..	71
Grand Totals, all Hospitals ..	665	560	1,225	326	307	633	95	71	166	197	203	400	2,474	2,143	4,617

\* For the purposes of this table patients discharged under Section 49 (3) and Voluntarily Left have been classified under these headings.

TABLE LXXXIII.

LENGTH OF RESIDENCE IN THE HOSPITAL OF THE PATIENTS WHO WERE DISCHARGED OR WHO DIED DURING THE YEAR AND OF THOSE WHO REMAINED ON THE BOOKS OF THE HOSPITAL ON 30TH JUNE, 1956.

	*Discharges.						Deaths.			Remaining.		
	Recovered.			Relieved and not Improved.								
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
BRISBANE MENTAL HOSPITAL.												
Under 1 month .. .. .	39	9	48	5	6	11	39	21	60	36	40	76
1 month and under 3 months .. ..	103	98	201	3	7	10	28	20	48	45	51	96
3 months and under 6 months .. ..	67	76	143	6	10	16	18	21	39	64	71	135
6 months and under 9 months .. ..	22	29	51	3	1	4	9	13	22	72	35	107
9 months and under 12 months .. ..	13	9	22	5	2	7	5	5	10	29	41	70
1 year and under 2 years .. .. .	18	28	46	5	5	10	11	17	28	123	133	256
2 years and under 3 years .. .. .	9	11	20	4	..	4	7	6	13	131	107	238
3 years and under 5 years .. .. .	4	8	12	6	..	6	8	17	25	156	166	322
5 years and under 7 years .. .. .	..	3	3	4	1	5	1	4	5	47	106	223
7 years and under 10 years .. .. .	4	3	7	1	..	1	7	10	17	117	148	265
10 years and under 12 years .. .. .	2	1	3	1	1	2	2	2	4	69	74	143
12 years and under 15 years .. .. .	..	..	..	..	1	1	2	4	6	79	86	165
15 years and under 20 years .. .. .	..	1	1	1	..	1	4	5	9	120	107	227
20 years and over .. .. .	..	1	1	2	1	3	11	5	16	210	145	355
Totals, Brisbane Mental Hospital ..	281	277	558	46	35	81	152	150	302	1,368	1,310	2,678
TOOWOOMBA MENTAL HOSPITAL.												
Under 1 month .. .. .	7	3	10	17	5	22	2	2	4	2	7	9
1 month and under 3 months .. ..	5	3	8	13	9	22	2	2	4	11	10	21
3 months and under 6 months .. ..	6	9	15	5	4	9	..	2	2	11	9	20
6 months and under 9 months .. ..	1	3	4	2	1	3	1	..	1	13	5	18
9 months and under 12 months .. ..	..	4	4	1	1	2	..	1	1	9	8	17
1 year and under 2 years .. .. .	..	6	6	1	3	4	2	5	7	15	11	26
2 years and under 3 years .. .. .	..	2	2	1	2	3	1	3	4	27	19	46
3 years and under 5 years .. .. .	..	..	..	1	2	3	2	2	4	32	35	67
5 years and under 7 years .. .. .	..	..	..	..	..	..	3	1	4	36	31	67
7 years and under 10 years .. .. .	..	..	..	..	..	..	3	2	5	51	52	103
10 years and under 12 years .. .. .	..	..	..	..	..	..	..	1	1	34	29	63
12 years and under 15 years .. .. .	..	..	..	..	1	1	1	1	2	43	39	82
15 years and under 20 years .. .. .	..	..	..	..	..	..	3	3	6	86	75	161
20 years and over .. .. .	1	..	1	..	2	2	10	16	26	265	292	557
Totals, Toowoomba Mental Hospital	20	30	50	41	30	71	30	41	71	635	622	1,257
IPSWICH MENTAL HOSPITAL.												
Under 1 month .. .. .	..	..	..	1	1	2	1	2	3	1	2	3
1 month and under 3 months .. ..	1	..	1	1	2	3	2	2	4	11	7	18
3 months and under 6 months .. ..	1	..	1	..	2	2	3	..	3	12	5	17
6 months and under 9 months .. ..	2	..	2	..	1	1	..	3	3	5	8	13
9 months and under 12 months .. ..	..	..	..	..	..	..	..	1	1	3	2	5
1 year and under 2 years .. .. .	1	..	1	3	..	3	1	..	1	26	14	40
2 years and under 3 years .. .. .	..	..	..	1	..	1	1	1	2	29	14	43
3 years and under 5 years .. .. .	..	..	..	1	..	1	..	..	..	60	24	84
5 years and under 7 years .. .. .	1	..	1	..	..	..	..	..	..	24	15	39
7 years and under 10 years .. .. .	..	..	..	1	..	1	1	..	1	34	22	56
10 years and under 12 years .. .. .	..	..	..	..	..	..	..	..	..	28	11	39
12 years and under 15 years .. .. .	..	..	..	..	..	..	..	1	1	33	35	68
15 years and under 20 years .. .. .	..	..	..	..	..	..	..	..	..	45	20	65
20 years and over .. .. .	..	..	..	..	..	..	1	2	3	89	32	121
Totals, Ipswich Mental Hospital ..	6	..	6	8	6	14	10	12	22	400	211	611
CHARTERS TOWERS MENTAL HOSPITAL.												
Under 1 month .. .. .	1	..	1	..	..	..	1	..	1	1	..	1
1 month and under 3 months .. ..	2	..	2	..	..	..	1	..	1	5	..	5
3 months and under 6 months .. ..	12	..	12	..	..	..	1	..	1	3	..	3
6 months and under 9 months .. ..	1	..	1	..	..	..	1	..	1	8	..	8
9 months and under 12 months .. ..	..	..	..	..	..	..	..	..	..	5	..	5
1 year and under 2 years .. .. .	1	..	1	..	..	..	..	..	..	15	..	15
2 years and under 3 years .. .. .	..	..	..	..	..	..	..	..	..	7	..	7
3 years and under 5 years .. .. .	2	..	2	..	..	..	..	..	..	9	..	9
5 years and under 7 years .. .. .	..	..	..	..	..	..	..	..	..	4	..	4
7 years and under 10 years .. .. .	..	..	..	..	..	..	..	..	..	6	..	6
10 years and under 12 years .. .. .	..	..	..	..	..	..	..	..	..	2	..	2
12 years and under 15 years .. .. .	..	..	..	..	..	..	1	..	1	1	..	1
15 years and under 20 years .. .. .	..	..	..	..	..	..	..	..	..	1	..	1
20 years and over .. .. .	..	..	..	..	..	..	..	..	..	4	..	4
Totals, Charters Towers Mental Hospital .. .. .	19	..	19	..	..	..	5	..	5	71	..	71
Grand Totals, all Hospitals ..	326	307	633	95	71	166	197	203	400	2,474	2,143	4,617

\* For the purposes of this table patients discharged under Section 49 (3) and Voluntarily Left have been classified under these headings.



TABLE LXXXIV.

EXPENDITURE TABLE FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1956.

	Brisbane Mental Hospital.	Toowoomba Mental Hospital.	Ipswich Mental Hospital.	Charters Towers Mental Hospital.	Total and Average Costs.
Average Number Daily Resident.	2,484	1,217	604	65	4,370
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Total expenditure .. ..	962,956 10 8	401,604 1 2	330,051 12 7	44,201 9 1	1,738,813 13 6
Sales .. ..	3,867 6 2	1,015 6 0	798 13 0	..	5,681 5 2
Collections .. ..	20,509 4 11	1,638 6 3	2,024 9 7	..	24,172 0 9
Net Expenditure .. ..	938,578 19 7	398,950 8 11	327,228 10 0	44,201 9 1	1,708,959 7 7
					Average Costs.
Gross cost per Patient per annum	387 13 3	329 19 2	546 8 10	680 0 5	397 17 11
Net cost per Patient per annum	377 16 11	327 16 3	541 15 4		391 1 3
Gross cost per Patient per week	7 9 1	6 6 10	10 10 2		7 13 0
Net cost per Patient per week ..	7 5 4	6 6 1	10 8 4	13 1 6	7 10 5

TABLE LXXXV.

STATEMENT SHOWING EXPENDITURE BY THE DEPARTMENT OF PUBLIC WORKS AT MENTAL HOSPITALS AND AT THE EPILEPTIC HOME DURING THE FINANCIAL YEAR ENDED 30TH JUNE, 1956.

Place.		Expenditure, 1955-56.		
		Revenue.	Loan.	Total.
Mental Hospitals—		£ s. d.	£ s. d.	£ s. d.
Brisbane (Excluding Expenditure at the Repatriation Hospital) .. ..		8,732 11 11	115,730 10 1	124,463 2 0
Charters Towers .. ..		1 4 0	123,144 19 11	123,146 3 11
Ipswich .. ..		2,039 1 4	11,351 1 2	13,390 2 6
Rockhampton .. ..		73 0 11	4,644 4 0*	4,717 4 11
Toowoomba .. ..		3,269 11 1	16,015 17 6	19,285 8 7
		14,115 9 3	270,886 12 8	285,002 1 11
Epileptic Home—Toowoomba .. ..		3,431 8 4	329 12 10	3,761 1 2
		£17,546 17 7	£271,216 5 6	£288,763 3 1

\* Acquisition of site.

DETAILS OF EXPENDITURE ON MAJOR WORKS.

		Expenditure 1955-56.
		£ s. d.
Brisbane .. ..	Dining and Recreation Block—Farm Colony ..	20,448 15 3
	Alteration and paving Yards—Female Wards 1 and 2 .. ..	5,544 1 9
	Erection of Ward “ B ”—Farm Colony .. ..	73,647 9 6
	Provision of elevated tank to Farm Colony Area	3,206 8 6
	Erection of Visitors Pavilion—Male Ward 11 ..	1,948 8 3
	Repairs and Painting Roof—Laundry building ..	2,649 10 3
	Installation of 8-inch Water Main .. ..	1,490 0 5
Charters Towers .. ..	Erection of Male and Female Admission Wards ..	86,073 12 9
	Installation of Sewerage .. ..	33,612 6 6
	Erection of New Garage and Oil Store .. ..	1,414 18 2
Ipswich .. ..	Erection of Shelter Shed—Male Ward No. 1 ..	1,619 5 0
	Erection of Visitors Shelter Shed—Male Ward No. 3 .. ..	1,649 14 11
Toowoomba .. ..	Erection of Additions to Sculleries of Verandah Wards .. ..	15,483 10 1
Toowoomba .. ..	Epileptic Home—Painting .. ..	2,708 2 5





TABLE LXXXVIII.

YEARLY SUMMARY OF PATIENTS TREATED AT THE PSYCHIATRIC CLINIC, CLASSIFIED IN AGE GROUPS ACCORDING TO DIAGNOSIS, 1955-56.

	0-4.		5-9.		10-14.		15-19.		20-29.		30-39.		40-49.		50-59.		60&over		Total.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Schizophrenia .. ..	..	..	..	1	..	1	3	2	9	8	10	9	8	2	2	2	1	1	33	26	59
Manic-Depressive .. ..	..	..	..	..	..	..	..	..	..	..	2	2	3	2	2	4	..	2	7	10	17
Paranoia and Paranoid States .. ..	..	..	..	..	..	..	1	..	..	..	..	1	1	..	1	2	..	1	3	3	6
Organic Psychoses .. ..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	1	1	3	2	6	8
Senile Psychoses .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	2	2	4
Other Psychoses .. ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
																			48	47	95
Obsessive-Compulsive .. ..	..	..	..	..	..	..	..	..	1	..	2	1	..	..	..	..	..	..	1	3	4
Psychoneuroses .. ..	..	..	1	1	4	4	1	4	8	18	5	20	2	14	6	10	3	1	30	72	102
Psychoneurosis with Psychosomatic Symptomatology .. ..	..	..	..	..	3	..	..	1	1	..	1	1	..	..	..	1	..	..	5	3	8
																			36	78	114
Alcoholism and Drug Addiction .. ..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	2	1	3
Inadequate and Immature Personality .. ..	3	..	9	2	11	2	2	..	5	2	2	..	1	1	..	..	..	..	33	7	40
Pathological Personality .. ..	..	..	1	..	3	..	8	4	10	2	3	1	3	1	..	..	1	..	29	8	37
Organic .. ..	1	..	1	1	2	..	..	1	1	..	..	..	..	..	..	1	..	..	5	3	8
Primary Childhood Behaviour Disorders .. ..	15	9	28	25	25	18	4	6	..	..	..	..	..	..	..	..	..	..	72	58	130
																			139	76	215
Epilepsy .. ..	..	..	1	..	1	2	1	..	..	..	1	1	..	..	..	..	..	..	4	3	7
Physical only .. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	2
Mental Deficiency .. ..	4	3	11	8	10	3	2	1	4	1	1	1	..	1	..	..	..	..	32	18	50
Borderline Deficiency .. ..	1	..	3	1	1	2	..	1	..	..	1	..	..	..	..	..	..	..	6	4	10
																			38	22	60
Domestic Problems .. ..	..	..	..	..	..	..	..	2	..	2	2	2	1	1	..	1	..	..	3	8	11
Stammering .. ..	5	3	16	2	9	1	4	1	4	1	1	..	..	..	..	..	..	..	39	8	47
Alalia .. ..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Dyslalia and Ret. Sp. Devt. .. ..	21	6	24	7	1	..	..	..	..	..	..	..	..	..	..	..	..	..	46	13	59
Cleft Palate.. ..	4	1	2	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	6	4	10
Aphasia .. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
Laryngectomy .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	2	..	2
Partially Deaf .. ..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	2	2
Dysphonia .. ..	..	..	1	..	..	..	1	..	..	1	..	1	..	1	..	..	1	..	3	3	6
Other .. ..	4	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	5	1	6
																			104	32	136
N.A.D. .. ..	2	..	4	2	..	..	2	2	2	1	1	2	1	1	..	..	..	1	12	9	21
Not yet diagnosed .. ..	3	1	2	2	..	..	..	1	..	..	2	1	2	..	..	..	..	..	9	5	14
Grand Total .. ..	65	25	104	54	70	33	29	28	47	40	33	45	25	26	12	22	10	10	395	283	678

TABLE LXXXIX.

SOURCES OF REFERRAL OF PATIENTS TO PSYCHIATRIC CLINIC YEAR ENDED 30TH JUNE, 1956.

	Male.	Female.	Total.
Personal .. ..	142	128	270
Commonwealth Government Departments .. ..	7	4	11
State Government Departments .. ..	58	24	82
Medical Practitioners .. ..	108	61	169
General and Mental Hospitals, Red Cross, &c. .. ..	80	66	146
Grand Total .. ..	395	283	678

TABLE XC.

SHOWING ADMISSIONS, DISCHARGES, AND DEATHS AT THE WACOL REPATRIATION PAVILION DURING THE YEAR ENDED 30TH JUNE, 1956.

Total number of patients on books as at 30th June, 1955	..	..	..	..	..	104	Total number of patients on books as at 30th June, 1956	..	..	..	..	..	103
Transferred from Brisbane Mental Hospital	..					55	Total number of patients on leave as at 30th June, 1956	..	..	..	..	..	6
Admitted	..	..	..	..	..	3							
						162	Total number of patients in residence as at 30th June, 1956	..	..	..	..	..	97
Discharged, recovered	..	..	..			22							
Discharged, Section 49	..	..	..			2	Average number of patients daily resident	..					95
Discharged. Not improved			..	..		1							
Voluntarily left	..	..	..	..		9							
Died	..	..	..	..	..	3							
Transferred to Brisbane Mental Hospital						22							
						59							



DIVISION OF LABORATORY SERVICES.

LABORATORY OF MICRO-BIOLOGY AND PATHOLOGY.

Director: J. I. TONGE, M.B., B.S. (Syd.), Dip. Clin. Path. (Syd.).  
Deputy Director: M. J. J. O'REILLY, M.B., B.S. (Syd.).  
Medical Officer: A. DAVISON, M.B., B.S. (Qld.).  
Technical Supervisor: H. E. BROWN.

Sir,—I have the honour to present the report of the Laboratory of Micro-Biology and Pathology for the year 1955-56 under the following headings:—

- 1. STATISTICAL SUMMARY.
- 2. LABORATORY DEVELOPMENT.
- 3. SEROLOGY OF THE "PYREXIAS OF UNKNOWN ORIGIN."
- 4. LEPTOSPIROSIS.
  - (a) Typing of Cultures.
  - (b) Investigation for Animal Reservoirs.
  - (c) The Use of Erythrocyte Sensitising Substances in the Diagnosis of Leptospirosis.
  - (d) The "Celledoni" Strain.
  - (e) Survey for Leptospiral Antibodies in Aborigines.
- 5. BACTERIOLOGY.
- 6. HISTOPATHOLOGY.
  - (a) Investigation of Cerebellar Lesions.
  - (b) Exfoliative Cytology.
- 7. CITY MORGUE.
- 8. PUBLICATIONS.

1. STATISTICAL SUMMARY, 1955-56.

TABLE XCI.

1. BACTERIOLOGY.

A. Specimens of Human Origin.

Specimen.	Mode of Examination.	Number.
Swabs—		
Throat ..	Culture .. ..	2,134
Nose ..	Direct Smear ..	38
	Antibiotic Sensi- tivity Tests ..	348
Urethra ..	Culture .. ..	433
Cervix ..	Direct Smear ..	5,471
Bartholin's Gland	Antibiotic Sensi- tivity Tests ..	132
Anus ..		
Ear ..	Culture .. ..	35
	Direct Smear ..	6
	Antibiotic Sensi- tivity Tests ..	348
Eye.. ..	Culture .. ..	26
	Direct Smear ..	7
	Antibiotic Sensi- tivity Tests ..	142

TABLE XCI.—continued.

A. Specimens of Human Origin—continued.

Specimen.	Mode of Examination.	Number.
Mouth ..	Culture .. ..	5
	Direct Smear ..	2
	Antibiotic Sensi- tivity Tests ..	24
Face ..	Culture .. ..	2
	Antibiotic Sensi- tivity Tests ..	12
Scalp .. ..	Culture .. ..	1
Thigh ..	Culture .. ..	1
	Antibiotic Sensi- tivity Tests ..	12
Foot ..	Culture .. ..	2
	Antibiotic Sensi- tivity Tests ..	12
Leg ..	Culture .. ..	4
	Antibiotic Sensi- tivity Tests ..	48
Hand ..	Culture .. ..	2
	Antibiotic Sensi- tivity Tests ..	24
Back ..	Culture .. ..	1
	Antibiotic Sensi- tivity Tests ..	12
Neck ..	Culture .. ..	2
	Antibiotic Sensi- tivity Tests ..	24
Bowel .. ..	Culture .. ..	3
Pus ..	Culture .. ..	168
	Direct Smear ..	36
	Antibiotic Sensi- tivity Tests ..	2,112
Pleural Fluid	Culture .. ..	8
	Microscopical ..	6
Cerebrospinal Fluid ..	Culture .. ..	52
	Microscopical ..	105
	Antibiotic Sensi- tivity Tests ..	8
Synovial Fluid	Culture .. ..	3
	Microscopical ..	1
Seminal Fluid ..	Microscopical ..	23
Ascitic Fluid	Culture .. ..	2
	Microscopical ..	3
Pericardial Fluid ..	Culture .. ..	1
Prostatic Fluid	Culture .. ..	1
	Antibiotic Sensi- tivity Tests ..	12
Fluid from Cyst ..	Culture .. ..	1
Fluid from Bladder	Culture .. ..	1

TABLE XCI.—continued.

A. Specimens of Human Origin—continued.

Specimen.	Mode of Examination.	Number.
Serous Exudate	Direct Smear .. ..	1,756
	Dark Ground Microscopy .. ..	7
Sputum ..	Culture .. ..	67
	Direct Smear .. ..	24
	Antibiotic Sensitivity Tests .. ..	312
Blood .. ..	Culture .. ..	97
Urine ..	Culture .. ..	831
	Direct Smear .. ..	1,774
	Antibiotic Sensitivity Tests .. ..	2,438
Faeces ..	Culture .. ..	370
	Microscopical .. ..	49
	Antibiotic Sensitivity Tests .. ..	12
Post-Mortem Swabs and Tissues	Culture .. ..	44
	Direct Smear .. ..	2
Virulence Tests for Corynebacterium Diphtheriae ..	.. ..	16
		19,655

TUBERCULOSIS SECTION.

Specimen.	Mode of Examination.	Number.
Sputum ..	Culture .. ..	3,922
	Direct Smear .. ..	3,922
	Animal Inoculation .. ..	69
	Sensitivity Tests .. ..	53
Gastric Aspiration	Culture .. ..	2,379
	Animal Inoculation .. ..	807
Laryngeal Swabs ..	Culture .. ..	10
Urine .. ..	Culture .. ..	81
	Animal Inoculation .. ..	40
Pus .. ..	Culture .. ..	11
	Direct Smear .. ..	11
	Animal Inoculation .. ..	9
Pleural Fluid ..	Culture .. ..	7
	Microscopical .. ..	4
	Animal Inoculation .. ..	6
Aspirated Fluid	Culture .. ..	1
	Microscopical .. ..	1
	Animal Inoculation .. ..	1
Cerebrospinal Fluid	Culture .. ..	1
	Microscopical .. ..	1
	Animal Inoculation .. ..	1
Faeces ..	Culture .. ..	6
	Animal Inoculation .. ..	3
Blood ..	Culture .. ..	1
	Direct Smear .. ..	1
	Animal Inoculation .. ..	1
Vaginal Blood	Culture .. ..	1
	Direct Smear .. ..	1
	Animal Inoculation .. ..	1
Tissue ..	Culture .. ..	14
	Direct Smear .. ..	12
	Animal Inoculation .. ..	13
Post-Mortem Tissue	Culture .. ..	2
	Animal Inoculation .. ..	2
Pleural Fluid Culture	Animal Inoculation .. ..	1
		11,396

TABLE XCI.—continued.

B. Foods and Waters.

Specimen.	Mode of Examination.	Number.
Water .. ..	Culture .. ..	149
	Plate Count .. ..	143
	Microscopical .. ..	6
Milk .. ..	Culture .. ..	475
	Plate Count .. ..	473
	Reductase Test .. ..	399
Goat's Milk ..	Culture .. ..	4
	Plate Count .. ..	4
Dried Milk Tablets	Culture .. ..	7
	Plate Count .. ..	5
Malted Milk Powder	Culture .. ..	1
	Plate Count .. ..	1
Ice Cream ..	Culture .. ..	64
	Plate Count .. ..	62
Ice Blocks ..	Culture .. ..	4
	Plate Count .. ..	4
Ice Cream Bulk Mix	Culture .. ..	1
	Culture .. ..	46
Cream ..	Plate Count .. ..	46
	Reductase Test .. ..	2
Reduced Cream	Culture .. ..	2
	Culture .. ..	13
Butter ..	Plate Count .. ..	13
	Culture .. ..	1
Cheese .. ..	Culture .. ..	1
Pineapple Juice ..	Culture .. ..	1
Soft Drinks .. ..	Culture .. ..	23
Whisky .. ..	Culture .. ..	5
Oysters ..	Culture .. ..	4
	Plate Count .. ..	2
Tinned Fish .. ..	Culture .. ..	1
Brawn .. ..	Culture .. ..	2
Saveloy in Batter ..	Culture .. ..	1
Meat Pie .. ..	Culture .. ..	8
Bread .. ..	Culture .. ..	4
Flour .. ..	Culture .. ..	24
Jam ..	Culture .. ..	2
	Culture .. ..	1
Lemon Butter	Plate Count .. ..	1
	Culture .. ..	1
Syrup .. ..	Culture .. ..	1
Fruit Salad .. ..	Culture .. ..	1
Plum Pudding .. ..	Culture .. ..	1
Mushroom Soup ..	Culture .. ..	1
Tomato Sauce .. ..	Culture .. ..	5
Biscuits .. ..	Culture .. ..	2
Confectionery .. ..	Culture .. ..	6
Fairy Floss .. ..	Culture .. ..	3
Waffles .. ..	Culture .. ..	3
Pickled Onions .. ..	Culture .. ..	2
Mixed Spice .. ..	Culture .. ..	2
Pepper .. ..	Culture .. ..	2
Culinary Herbs .. ..	Culture .. ..	1
Cocoanut .. ..	Culture .. ..	8
Sago .. ..	Culture .. ..	1
Gelatin ..	Culture .. ..	1
	Plate Count .. ..	1
Soyalact Tonic Food	Culture .. ..	1
Frozen Poultry Stuffing .. ..	.. ..	1
	Culture .. ..	1
		2,047

C. Various Materials.

Specimen.	Object of Examination.	Number.
Disinfectants and Antiseptics ..	Rideal-Walker Co-efficient .. ..	42
	Germicidal Value .. ..	4
Detergent .. ..	Rideal-Walker Co-efficient .. ..	1
	Germicidal Value .. ..	1
Deodorant .. ..	Rideal-Walker Co-efficient .. ..	1
Soap .. ..	Sterility .. ..	6
Bottles .. ..	Sterility .. ..	51
Glasses .. ..	Efficiency .. ..	2
Filter .. ..	Identification .. ..	57
Bacterial Cultures	Antibiotic Sensitivity Tests .. ..	48
	Culture .. ..	5
Wool Flock .. ..	Culture .. ..	5



TABLE XCI.—continued.

C. Various Materials—continued.

Specimen.	Object of Examination.	Number.
Talcum Powder ..	Culture .. ..	17
Old Tuberculin ..	Culture .. ..	1
Cough Mixture ..	Culture .. ..	1
Toothpaste .. ..	Culture .. ..	1
Lipstick .. ..	Culture .. ..	1
Swabs from Drinking Fountain .. ..	Culture .. ..	10
Swabs from Drain ..	Culture .. ..	2
Ice Cream Scoop Rinse water .. ..	Culture .. ..	4
Sea Water .. ..	Culture .. ..	1
Cork .. ..	Culture .. ..	1
Ice Cream Container	Culture .. ..	1
Unfilled Ice Cream Buckets .. ..	Culture .. ..	3
Skin Scrapings ..	Presence of Fungi ..	5
Hair .. ..	Presence of Fungi ..	2
		268

2. SEROLOGY.

	Number.
Serum Agglutination (Screen)—	
<i>Eberthella typhosa</i> (O) .. ..	8
<i>Eberthella typhosa</i> (H) .. ..	2,960
<i>Salmonella paratyphi</i> (H) .. ..	2,959
<i>Salmonella schottmüller</i> (H) .. ..	2,959
<i>Proteus</i> OX19 .. ..	2,955
<i>Proteus</i> OXK .. ..	2,955
<i>Brucella abortus</i> .. ..	2,959
<i>Leptospira icterohaemorrhagiae</i> .. ..	3,066
<i>Leptospira canicola</i> .. ..	3,066
<i>Leptospira australis</i> A .. ..	3,066
“ Robinson ” Strain of <i>leptospira</i> .. ..	3,066
<i>Leptospira australis</i> B .. ..	3,066
“ Esposito ” Strain of <i>leptospira</i> .. ..	3,066
<i>Leptospira pomona</i> .. ..	3,066
<i>Leptospira grippotyphosa</i> .. ..	3,066
<i>Leptospira medanensis</i> .. ..	3,066
“ Kremastos ” Strain of <i>leptospira</i> .. ..	3,066
“ Sz wajzak ” Strain of <i>leptospira</i> .. ..	3,066
<i>Leptospira hyos</i> .. ..	3,066
“ Celledoni ” Strain of <i>leptospira</i> .. ..	3,066
<i>Leptospira autumnalis</i> .. ..	3,066
<i>Coxiella burneti</i> .. ..	1,396
<i>Erythrocytes</i> “ O ” .. ..	16
<i>Streptococcus</i> MG .. ..	17
Serum Agglutination Tests (Quantitative) ..	2,749
Paul Bunnell Tests .. ..	175
Leptospiral Strains Typed (37)—	
Agglutination Tests Performed in Typing ..	1,500
Leptospiral Antisera Prepared .. ..	62
Complement Fixation Tests—	
<i>Coxiella burneti</i> —	
Routine .. ..	2,442
Quantitative .. ..	232
Rickettsialpox (Soluble)—	
Routine .. ..	423
Quantitative .. ..	45
Typhus Fever Murine (Soluble)—	
Routine .. ..	706
Quantitative .. ..	152
Typhus Fever Tick (Soluble)—	
Routine .. ..	24
Quantitative .. ..	43
Psittacosis Virus C.F. .. ..	30
Mumps Virus C.F. .. ..	7
Eagle Wassermann (Serum)—	
Routine .. ..	6,031
Quantitative .. ..	79
Eagle Wassermann (C.S.F.) .. ..	140
Flocculation Tests—	
Kline .. ..	6,528
Kahn .. ..	898
Lange Colloidal Gold Reaction (C.S.F.) ..	160
	84,534

TABLE XCI.—continued.

3. BIOCHEMISTRY

Specimen.	Examined For.	Number.
Whole Blood .. ..	Urea .. ..	422
	Glucosa .. ..	38
	Uric acid .. ..	112
	Chloride .. ..	6
	Pigments .. ..	9
	Non-protein nitrogen .. ..	2
Serum .. ..	Protein .. ..	1,067
	Cholesterol .. ..	71
	Bilirubin .. ..	439
	Chloride .. ..	5
	Sodium .. ..	3
	Potassium .. ..	4
	Calcium .. ..	32
	Inorganic phosphate .. ..	7
	Acid phosphatase .. ..	42
	Alkaline phosphatase .. ..	416
	Thymol turbidity .. ..	408
	Thymol flocculation .. ..	409
	Zinc sulphate turbidity .. ..	408
	Paper Electrophoresis .. ..	441
	Amylase .. ..	23
Cerebrospinal Fluid ..	Protein .. ..	107
	Globulin .. ..	92
	Chloride .. ..	85
	Glucose .. ..	97
	Urea .. ..	3
Pleural Fluid .. ..	Protein .. ..	1
Urine .. ..	Albumin .. ..	1,978
	Sugar .. ..	1,993
	Pigments .. ..	10
	Bile .. ..	1
	Bilirubin .. ..	8
	Urobilin .. ..	4
	Urobilinogen .. ..	10
	Diastase .. ..	4
	Chloride .. ..	1
	Bence Jones protein .. ..	1
	Aceto-acetic acid .. ..	2
Faeces .. ..	Total, Split and Un-split Fats .. ..	64
	Occult Blood .. ..	52
	Creatorrhoea .. ..	2
	Trypsin .. ..	6
	Bile pigments .. ..	2
Duodenal Contents ..	Trypsin .. ..	4
Gastric Contents ..	Acid .. ..	1
Renal Calculi .. ..	Chemical constitution .. ..	13
Functional Tests ..	Glucose tolerance tests .. ..	165
	Urea clearance tests .. ..	103
	Urea concentration tests .. ..	118
	Fractional test meals .. ..	101
		9,392

4. HAEMATOLOGY.

	Number.
Cell Counts—	
Red Cells (Total) .. ..	2,368
Red Cells (Stippled) .. ..	951
Reticulocytes .. ..	19
White Cells (Total) .. ..	4,507
White Cells (Differential) .. ..	4,438
Platelet Count .. ..	35
Haemoglobin .. ..	6,607
Haematocrit .. ..	4,879

TABLE XCI.—continued.  
4. HAEMTOLOGY—continued.

—	Number.
Sedimentation Rate .. .. .	536
Coagulation Time .. .. .	67
Bleeding Time .. .. .	65
Prothormbin Time .. .. .	8
Red Cell Fragility .. .. .	12
Blood Grouping (A.B.O.) .. .. .	3,286
Blood Grouping (Rh) .. .. .	3,285
Rh Antibodies .. .. .	754
	31,817

5. PARASITOLOGY.

Specimen.	Object of Examination.	Number.
Faeces .. .. .	Amoebae (Cysts and vegetative) ..	96
	Helminth ova ..	533
Pus .. .. .	<i>Trichomonas vaginalis</i> ..	16
Blood .. .. .	<i>Microfilariae</i> ..	1
	<i>Plasmodium</i> <i>sps.</i> ..	26
Helminth .. .. .	Identification ..	20
Arthropod .. .. .	Identification ..	1
		693

6. VARIOUS TESTS.

—	Number.
Male Toad Test (Pregnancy) .. .. .	1,946
Aschheim Zondek Test (Pregnancy) .. .. .	11
Casoni Skin Test .. .. .	8
“ Cat-Scratch ” Skin Test .. .. .	6
Frei Skin Test .. .. .	1
	1,972

7. HISTOLOGY.

Tissues Sectioned.	Number.
Human—	
Biopsy .. .. .	4,821
Post-Mortem .. .. .	2,303
Animal—	
Guinea-pig .. .. .	21
	7,145

8. EXFOLIATIVE CYTOLOGY.

Speciman.	Number.
Sputum .. .. .	6
Pleural Fluid .. .. .	1
	7

TABLE XCI.—continued.  
9. MEDICO-LEGAL.

—	Number.
Clothing—	
Blood .. .. .	122
Spermatozoa .. .. .	108
Various Articles—	
Blood .. .. .	58
Spermatozoa .. .. .	13
Smears—Spermatozoa .. .. .	38
Swabs—Spermatozoa .. .. .	2
Tissues—Examination .. .. .	96
Blood—Grouping .. .. .	33
Blood-Stained Articles—Determination of Blood Group of Stains .. .. .	11
Hair—Identification .. .. .	15
Skull—Identification .. .. .	1
Skeleton—Identification .. .. .	3
	500
Post-Mortem Examinations .. .. .	609
Attendances at Courts—	
Supreme Court .. .. .	16
Police Court .. .. .	15
Coroner’s Court .. .. .	15
Other Courts .. .. .	11
	57

2. LABORATORY DEVELOPMENT.

During the year there has been a six per cent. increase on the previous year in the number of tests performed, the total now being 168,919. In addition the autopsies have now increased to 609 (an 8 per cent. increase). It is only with difficulty that the work can be carried on with the present inadequate accommodation, and the construction of the new laboratory, to be erected in George street, is eagerly awaited.

The necessity for the preparation and distribution of diagnostic kits for pathological investigations is very great. Such an undertaking is vital to Queensland where the population is scattered over a wide area and pathological facilities are sparse. Unfortunately this scheme cannot be contemplated until additional accommodation is provided but it is one of the first projects to be tackled when the laboratory moves to its new site.

It is also proposed, as soon as staff and accommodation permit, to establish evaluation schemes for laboratories in district hospitals throughout the State. These consist of the distribution from a central laboratory of unknown specimens, mainly bacteriological, haematological and biochemical, to all laboratories and the collection and assessment of the results obtained. They serve as a valuable check on the techniques employed and of the ability of the technical staff, and do much to improve the standard of laboratory work. It is also hoped that refresher courses may be conducted and that technicians from isolated centres may have the opportunity to attend them.



### 3. SEROLOGY OF THE "PYREXAS OF UNKNOWN ORIGIN."

Although comparatively few sera have been received from the Field Station of the Queensland Institute of Medical Research, there has been a great increase in the number of paired sera submitted from private practitioners and hospital laboratories. In this way the number of investigations made has remained essentially the same as in the previous year. Sera have been submitted from all Australian States, New Zealand, Thursday Island, and New Caledonia. Two cases of Q. fever were diagnosed from Perth and one from Meekatharra in Western Australia. Two cases of leptospirosis due to *L. pomona* were also detected from Wooroloo and Perth respectively. An abattoir worker from South Australia was found to be suffering from Q. fever and this disease was also diagnosed in a young male from Alice Springs. Infections due to *L. hyos* and *L. pomona* were diagnosed from northern New South Wales and one case of Brucellosis from Tenterfield, New South Wales.

An epidemic occurred in New Caledonia involving children and the presenting symptoms were cough, headache, chest pain and pyrexia. X-ray examination revealed small foci of consolidation in the lungs. The condition responded poorly to various antibiotics and recovery was slow. Sera from five children between the ages of 10–12 years were examined in this laboratory and in four there was evidence of primary atypical pneumonia manifest by significant titres for cold agglutinins and agglutination with *Streptococcus* MG.

A youth from Springsure in Central West Queensland was infected with leptospirosis whilst swimming in a creek which was contaminated by drainage from backyards of several houses where wild pigs were kept. Paired sera from the patient showed a significant rise in the agglutinin titre for *L. pomona*. At least one other similar infection occurred in this area from the same source. This case is emphasised as indicating the importance of infections due to *L. pomona* as a cause of some of the febrile conditions occurring during the wet season in Central Queensland.

Due to the difficulty in obtaining a satisfactory antigen for the agglutination test for Q. fever this test has been discontinued and the complement fixation test is being used alone. This latter test has given consistently reliable and reproducible results.

### 4. LEPTOSPIROSIS.

(a) *Typing of Cultures.*—During the year 81 additional leptospiral cultures have been typed and the results are set out in Table XCII. Of these cultures 69 were from North Queensland, having been submitted from either the Commonwealth Health Laboratory in Cairns or the Field Station of the Queensland Institute of Medical Research at Innisfail. Four of these cultures were from rats and two from bandicoots, the remainder being from human patients.

Twelve strains of leptospirae were obtained from Southern Queensland (Wondai 5, Brisbane 3, Goomeri 3, and Collinsville 1), and except for two strains of *L. hyos* all proved to be *L. pomona*. In the period 1951–55 only five strains of *L. pomona* have previously been isolated and these additional ten strains thus offer good material for further study.

There appear to be two distinct agglutination patterns in the sera of patients proven by culture to have been infected with various strains of *L. pomona*. In a minority the serum reacts merely with the homologous strain, whilst, in the majority there is also marked "crossing" with *L. australis* A, *L. autumnalis*, *L. grippityphosa* and the "Esposito" strain. This phenomenon is being studied by absorption tests. Since the majority of cases of leptospirosis in Southern Queensland are caused by *L. pomona* the matter is of more than academic interest as it may facilitate the interpretation of agglutination tests on human sera.

(b) *Investigation for Animal Reservoirs.*—Clinical investigations of cases ceased at the Field Station of the Queensland Institute of Medical Research in August, 1955, and attention has been turned to the search for animal reservoirs of pathogenic leptospirae. As a result both cultures and sera from trapped animals have been submitted for serological examination. *Leptospira australis* B. strains were isolated from two *R. rattus* and two *R. norvegicus*, and from two bandicoots (*Parameles nasuta* and *Thylacis obesulus*) the "Kremastos" serotype.

Although it was not possible always to be certain of the serotype involved, evidence of infection was found in several animals by examination of the serum. Those reacting to a titre of 1/1,000 or greater were: *Thylacis obesulus* with *L. australis* B. (1), "Robinson" (1), and "Kremastos" (1), in addition to the culture reported above; *Parameles nasuta*, with "Esposito" (1) and in addition the culture of "Kremastos" reported above; an unidentified bandicoot, with "Kremastos" (1) and an unidentified rat, with *L. pomona* (1). In the serum of one *R. rattus*, agglutination titres of 1/1,000 were found for each of *L. icterohaemorrhagiae*, *L. australis* B. and "Robinson"—a pattern commonly seen in infections with *L. australis* B.

TABLE XCII.

CLASSIFICATION OF LEPTOSPIRAL CULTURES RECEIVED IN THE PERIOD AUGUST, 1951—JUNE, 1956.

From North Queensland.

Serotype.	1951–55.	1955–56.	Total.
<i>L. icterohaemorrhagiae</i>	3	..	3
<i>L. canicola</i> ..	11	6	17
<i>L. australis</i> B. ..	50	30	80
"Robinson" ..	11	3	14
<i>L. australis</i> A. ..	63	31	94
"Esposito" ..	2	..	2
<i>L. pomona</i> ..	4	..	4
"Valbuzzi" ..	1	..	1
<i>L. medianensis</i> ..	2	..	2
"Kremastos" ..	28	8	36
"Szwajizak" ..	5	1	6
<i>L. hyos</i> ..	12	2	14
"Celledoni" ..	9	..	9
Total ..	201	81	282



TABLE XCII.—*continued.*  
*From Southern Queensland.*

Serotype.						1955-56.
<i>L. pomona</i>	..	..	..	..	..	10
<i>L. hyos</i>	..	..	..	..	..	2
Total	..	..	..	..	..	12

(c) *The Use of Erythrocyte Sensitising Substances in the Diagnosis of Leptospirosis.*—Active collaboration with Dr. Shih-man Chang of Harvard University has continued in an endeavour to find some satisfactory screen test for sera. Preliminary investigations, reported last year, with the sensitised erythrocyte agglutination test proved somewhat disappointing but it was suggested that this may have been due to deterioration of antibody to the erythrocyte sensitising substances due to prolonged storage of the sera at low temperatures.

Since that time Dr. Chang and others have continued with this study and have adapted the sensitised erythrocyte lysis test with more success. A large number of paired sera from patients infected with eight different strains have been sent from this laboratory and have provided representative test material for our American colleagues. Two reports have been submitted for publication on this work and the courtesy and interest of Dr. Chang and his co-workers are much appreciated.

Whilst the sensitised Erythrocyte Agglutination Test was not sufficiently sensitive, it would seem that the Sensitised Erythrocyte Lysis Test may be rather too sensitive in its present form. A number of apparently non-specific reactions were encountered and these would limit the value of the test for routine diagnostic work where ideally spaced paired sera cannot always be obtained. These non-specific reactions would render the test of very little value for surveys.

(d) *The "Celledoni" Strain.*—The first strain of the "Celledoni" type was isolated in January, 1952, from a white male aged 18 years, who prior to his illness, had been working on a cane farm at Mourilyan in North Queensland. The culture was sent to this laboratory from the Field Station of the Queensland Institute of Medical Research.

The "Celledoni" strain failed to react with any of the twelve stock antisera in use but was agglutinated by its homologous antiserum to full titre. Dr. J. C. Broom, of the Wellcome Laboratories of Tropical Medicine in London, to whom the culture was sent found that the "Celledoni" antiserum gave negative reactions with over thirty leptospiral strains in his collection. The only positive reaction was, at that time, with *L. javanica* in low titre. Dr. Broom has continued his serological investigations with this strain and is now satisfied that it constitutes a distinct serotype and it is proposed to accept the name *Leptospira celledoni* for cultures of this type. A short report on the serology of this strain is being prepared for publication with Dr. Broom. It is of interest

that nine strains of *L. celledoni* have been isolated from patients in North Queensland in the past four years.

(e) *Survey for Leptospiral Antibodies in Aborigines.*—In collaboration with Dr. T. K. Abbott, Medical Officer of Health at the Department of Public Health, Lismore, New South Wales, a survey for evidence of leptospiral antibodies was made in sera from approximately 100 aborigines in the Lismore district. None of these aborigines had moved over wide areas but had lived mainly between the Dividing Range and the coast, as far north as Brisbane and as far south as Kempsey in New South Wales.

Most of the titres were low but in ten the results were indicative of previous infection with *L. pomona*, three with some member of the hebdomadis serogroup of leptospirae and one probably represented an old infection with either *L. icterohaemorrhagiae* or *L. canicola*.

## 5. BACTERIOLOGY.

In the Tuberculosis section there has been a 17 per cent. increase in the volume of work. Routine sensitivity tests with streptomycin, para-amino-salicylic acid and isonicotinic acid anhydrazide are made on cultures from all new cases of tuberculosis in addition to those required during treatment. A further case of pulmonary tuberculosis in a meatworker was found to be due to the bovine strain.

Several salmonellas new to this laboratory were isolated during the year and we are greatly indebted to Miss Nancy Atkinson for her invaluable help in typing these strains. They were, *S. muenchen*, *S. san-diego*, *S. vejle*, and *S. meleagridis*.

A fascinating bacteriological problem arose as a result of local salvage operations. On 3rd February, 1887, the ship "Scottish Prince" on its way from England to Brisbane foundered and sank two miles off Southport on the Queensland coast. The remains of the vessel lie in seven fathoms of water scattered over a large area of the sea bed. It was known that a large consignment of whisky was amongst the cargo when the vessel sank. Recently the Underwater Research Group of Queensland attempted to salvage items of interest and several cases of whisky were recovered. When the first bottle was opened a foul smell resembling sulphuretted hydrogen escaped. Several of the bottles were sent to the laboratory for examination. The corks had worked inwards in the neck of the bottle, had become black and bulged into the bottle itself.

A piece of the centre of the cork, not exposed to the exterior nor to the clear fluid within the bottle, was removed with sterile precautions and on culture this yielded a pure culture of *Shigella sonnei*. This organism has been found to retain its viability for over two weeks in sea water and is at present being investigated further. The contents of the bottle failed to reveal any pathogenic organisms. It is interesting to postulate how the cork could have become contaminated with such a pathogen exposed as it was to the open sea.



## 6. HISTO-PATHOLOGY.

There has been an increase in the number of biopsy sections examined during the year and the large back-lag of post-mortem tissue sections has been brought up to date. A new filing system for biopsy reports has been introduced which makes them readily available for reference at any time. In addition all pathological material is cross indexed according to the lesion involved. This latter system renders the accumulated sections easily available for reference or research projects.

During the absence of Dr. O'Reilly part-time assistance was given by Dr. T. H. Vickers of the Medical School in reporting on the biopsies. His assistance was invaluable and we are deeply indebted to him and to Professor A. J. Canny for making his services available to this laboratory.

(a) *Investigation of Cerebellar Lesions.*—At autopsy from time to time cases showing gross mineral deposits in the cerebellum have been noted and have aroused great interest. In conjunction with Dr. T. H. Vickers of the Medical School a detailed study has commenced in an endeavour to determine the exact nature of these concretions in the tissues and their incidence. Cerebella from over 200 consecutive autopsies have been collected together with sections from numerous organs which may have some bearing on the lesions. A curious feature is the fact that these cerebellar lesions, some of which are sufficiently gross as to be detected radiologically in the living, have not apparently been observed elsewhere. The investigation is proceeding.

(b) *Exfoliative Cytology.*—The diagnostic activities of the Chest Clinic together with the true increase of lung cancer in the general population have resulted in a relatively large number of patients requiring investigation either to confirm or exclude the diagnosis of pulmonary neoplasm. It has been the general experience overseas that cytological examination of the sputum and bronchial secretions provides a useful additional diagnostic tool in this investigation, and in June, 1956, the laboratory began this procedure. The technique employed is that developed by Papanicolaou which, although somewhat more complicated than other techniques, has advantages in ease of interpretation and permanence of the preparation. Our experience is too short to estimate the value of the method under the conditions obtaining here but it is hoped that it will prove to be a valuable diagnostic aid and result in earlier diagnosis in many otherwise doubtful cases.

## 8. CITY MORGUE.

The steady increase in the number of autopsies performed year by year still continues, and with increasing population this trend will doubtless be maintained. The unsatisfactory nature of the premises has received attention during the year and approval has been given for the construction of a new Morgue which will not only provide adequate facilities for the proper storage of bodies and performance of autopsies but will also enable the process of identification by relatives and friends to be carried out under better conditions.

## 9. PUBLICATIONS.

\*Smith, D. J. W. and Self, H. R. M. (1955): "Observations on the Survival of *Leptospira australis* A. in Soil and Water," J. Hyg., Camb., 53, 436.

Smith, D. J. W. and Brown, H. E. (1955): "Two additional Serotypes of Leptospirae from North Queensland," Australasian Ann. Med., 4, 287.

Smith, D. J. W. (with Doherty, R. L.): "Double Infection with Two Serotypes of Leptospirae—A Case Report," (in the press).

Smith, D. J. W. (with Domrow, R.) (1955): "Acarina from Five Hundred Native Mammals from Queensland," Proc. Linn. Soc., N.S.W., LXXX, 3, 201.

Smith, D. J. W. (with McComb, D. E. Coffin, D. L., McCready, R. A., and Shih-man Chang, R.): "The use of Erythrocyte Sensitising Substances in the Diagnosis of Leptospiroses, 1. The Sensitised Erythrocyte Agglutination Test," (in the press).

Smith, D. J. W., Sharp, C. F. and Tonge, J. I. (with Shih-man Chang, R., and McComb, D. E.): "The Use of Erythrocyte Sensitising Substances in the Diagnosis of Leptospiroses, 2. The Sensitised Erythrocyte Lysis Test," (in the press).

\*Tonge, J. I. and Hughes, P. G. (1956): "A Comparative Study of Laryngeal Swabs and Gastric Lavage in the Detection of Tubercle Bacilli," Am. Rev. Tuberc., 73, 930.

Tonge, J. I. (with Harveyson, K. B. and Hirschfeld, B. E. F.) (1956): "Fatal Air Embolism Resulting from the Use of a Compressed Air Diving Unit," M. J. Aust. 1, 658.

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\* Previously reported as in the press.

GOVERNMENT CHEMICAL LABORATORY, 1955-56.

Government Analyst and Chief Inspector of Explosives:  
S. B. WATKINS, M.Sc., F.R.A.C.I.

Deputy Government Analyst and Inspector of Explosives:  
A. S. HURWOOD, B.Sc., A.R.I.C., A.R.A.C.I.

STATISTICS.

SECTION 1.

FOODS, DRUGS, AND WATERS.

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Deputy Government Analyst, Officer-in-Charge.

Table XCV gives the number and source of the samples examined.

TABLE XCIII.

Year.	Samples.		
1946-47	..	..	12,834
1947-48	..	..	13,629
1948-49	..	..	17,564 (Record year)
1949-50	..	..	18,840 (Record year)
1950-51	..	..	14,137
1951-52	..	..	15,657
1952-53	..	..	26,091 (Record year)
1953-54	..	..	21,894
1954-55	..	..	20,905
1955-56	..	..	21,178

The following table indicates the distribution between the several sections of the above totals for this and the past two years:—

TABLE XCIV.

Year.	Section 1.	Section 2.	Section 3.	Section 4.
1953-54	7,762	1,647	4,295	8,190
1954-55	7,397	2,815	4,412	6,281
1955-56	6,690	3,207	3,754	7,527

In the following table, an analysis of the year's total samples is recorded against the names of the submitting authorities:—

TABLE XCV.

State Departments:				
Health and Home Affairs	..	..	..	6,870
Police	..	..	..	393
Mines	..	..	..	25
Coal Board	..	..	..	249
Portmaster	..	..	..	2,074
Geological Survey	..	..	..	605
Tile Testing Station	..	..	..	309
Irrigation	..	..	..	700
Local Government	..	..	..	391
Harbours and Marine	..	..	..	439
Main Roads	..	..	..	152
State Stores	..	..	..	704
Public Works	..	..	..	923
Housing Commission	..	..	..	714
Railways	..	..	..	22
Queensland Institute for Medical Research	..	..	..	407
Others	..	..	..	331
				15,308
Commonwealth Departments:				
Customs	..	..	..	3,508
Commerce	..	..	..	1,471
Others	..	..	..	290
				5,269
Hospital Boards	..	..	..	226
Medical Profession	..	..	..	96
Public	..	..	..	279
				601
Total	..	..	..	21,178

TABLE XCVI.

Department.	No. of Samples.
Health and Home Affairs	4,596
Irrigation and Water Supply	691
Local Government	329
Other Government Departments	908
Public	166
Total	6,690

TABLE XCVII.

SUMMARY OF SAMPLES OF FOODS AND DRUGS EXAMINED FOR THE DEPARTMENT OF HEALTH AND HOME AFFAIRS.

Nature of Sample.	No. of Samples.
Beverage or Cordial	229
Bread	106
Cereal	78
Condiment	16
Confection	40
Disinfectant	45
Drug or Medicine	111
Essence	44
Fish	57
Flock or fibre	5
Fruit or fruit juice	50
Jam	6
Meat	111
Milk—official	1,621
Milk—unofficial	132
Milk products	135
Paint	967
Spirituos Liquor	23
Tobacco	279
Toilet Preparation	30
Toy	58
Vegetable	7
Miscellaneous	238
Total	4,388

The miscellaneous samples include methylated spirit, molasses, fibrolite roofing, coffee bean, school slate, wrapping paper, and Sikes hydrometer.

TABLE XCVIII.

DETAILS OF LEGAL SAMPLES TAKEN BY INSPECTORS IN ACCORDANCE WITH THE PROVISIONS OF "THE HEALTH ACTS, 1937 TO 1955":—

Nature of Sample.	Number Examined.	Passed.	Failed.
Milk	1,621	1,456	165
Paint	840	368	472
Minced Meat	50	20	30
Sausage	36	21	15
Soft Drink	10	7	3
Bread	5	1	4
Spirituos Liquor	4	..	4
Miscellaneous	3	2	1
Total	2,569	1,875	694

The record number of legal paint samples was due to intensive sampling of paint from houses in the Yeppoon area and from Housing Commission homes at Holland Park.



TABLE XCIX.

DETAILS OF LEGAL SAMPLES OF MILK SUBMITTED FOR ANALYSIS.

District.	Total Number of samples.	Number of samples which passed the standard.	Number of watered samples.	Number of samples below the standard in fat (3·3 per cent.) but not watered.	Number of samples below the standard in total solids (12 per cent.) and/or solids not fat (8·5 per cent.) but not watered nor deficient in fat.	Proportion of watered samples. (per cent.)	Average proportion of added water. (per cent.)
Brisbane .. ..	679	644	6	26	3	0·9	11·5
Beaudesert ..	7	7	Nil	Nil	Nil	Nil	Nil
Caboolture ..	77	71	Nil	5	1	Nil	Nil
Cairns .. ..	101	74	22	5	Nil	21·8	8·5
Charleville ..	7	7	Nil	Nil	Nil	Nil	Nil
Cleveland ..	22	19	Nil	1	2	Nil	Nil
Cloncurry ..	15	9	5	Nil	1	33·3	6·2
Hughenden ..	5	3	1	1	Nil	20·0	13·0
Ipswich .. ..	130	108	11	6	5	8·5	11·5
Kingaroy ..	18	16	Nil	2	Nil	Nil	Nil
Longreach ..	13	8	Nil	4	1	Nil	Nil
Maryborough ..	34	29	2	3	Nil	5·9	6·5
Nambour ..	52	49	Nil	2	1	Nil	Nil
Rockhampton ..	114	102	Nil	12	Nil	Nil	Nil
Roma .. ..	17	12	Nil	3	2	Nil	Nil
South Coast ..	43	39	2	2	Nil	4·6	2·0
Toowoomba ..	228	210	11	7	Nil	4·8	9·9
Townsville ..	59	49	Nil	8	2	Nil	Nil
Total ..	1,621	1,456	60	87	18	3·7	9·2

TABLE C.  
(SUMMARY OF TABLE XCIX).

	Proportion of total number of Samples. Per cent.
Samples adulterated with water ..	3·7
Samples deficient in fat but not watered	5·4
Samples below the standard in total solids and/or solids not fat only ..	1·1
Samples which passed the standard ..	89·8
	100·0

TABLE CI.  
MILK SAMPLES TAKEN IN GREATER BRISBANE  
COMPARED WITH PREVIOUS YEARS.

Year.	Number of Samples.	Proportion of Total Samples.	Proportion Adulterated with Water.
		Per cent.	Per cent.
1949-50 .. ..	1,154	53·0	1·7
1950-51 .. ..	732	43·2	6·5
1951-52 .. ..	878	41·8	4·3
1952-53 .. ..	813	42·1	0·7
1953-54 .. ..	768	37·7	7·7
1954-55 .. ..	898	51·3	0·9
1955-56 .. ..	679	41·9	0·9

TABLE CII.  
SHOWING MILK ANALYSES COMPARED WITH PREVIOUS YEARS.

Year.	Number of Legal Samples.	Percentage showing Deficiency in Fat but not Watered.	Percentage Below the standard in Total Solids and/or Solids not Fat only.	Percentage of Watered Samples.	Added Water (Average per cent.)
1949-50 .. ..	2,179	9·6	3·5	3·1	9·0
1950-51 .. ..	1,695	9·7	2·7	8·7	8·5
1951-52 .. ..	2,100	13·7	9·6	8·0	9·5
1952-53 .. ..	1,934	7·8	3·5	2·8	10·2
1953-54 .. ..	2,036	11·0	7·5	6·3	9·4
1954-55 .. ..	1,750	6·4	3·0	3·5	10·2
1955-56 .. ..	1,621	5·4	1·1	3·7	9·2

The vast majority of foods and drugs as sold in Queensland conforms with official requirements. Their quality in general is of a high order and comparatively few lines require the attention of either the health inspector or the analyst. It is these few lines of doubtful

purity, however, that provide a large proportion of the work of the Foods and Drugs Section of the Laboratory. The work of this section over the period now under review has followed a similar pattern to previous years, as shown in the following report.

## MILK.

The Brisbane milk supply consists principally of pasteurised milk and this was regularly examined with satisfactory results.

The one third pint bottles of pasteurised milk supplied to State School children under the Free Milk Scheme were also regularly examined and seldom failed to conform with the prescribed standard.

The Health Department at present is interested only in the milk as it reaches the consumer, and the purity of the milk from the many farmers supplying the pasteurisation plants is the concern of the Department of Agriculture. It is most essential that these individual contributions to the pooled milk be regularly examined, if the purity of the pasteurised milk supply is to remain at a high level. The quality of raw milk, in general, throughout the State, was good, and the proportion of naturally poor milk, both in town and country was the lowest for some years.

Sixty samples of milk from a total number of 1,621 legal samples examined, were adulterated with water, and most of these watered samples came from Cairns, Toowoomba, and Ipswich, or from towns in close proximity to these centres.

The average fat content of all the milks examined was at the high level of 4.05 per cent. compared with 3.94 per cent. last year and 3.81 per cent. the year before.

The Kay and Graham phosphatase test has long been the official test in Queensland for pasteurised milk but this will soon be replaced by the Aeschaffenburg-Mullen test which is more suitable for routine purposes. This is easier to perform, gives accurate results in two hours, and is unaffected by phenolic type substances which interfere with the Kay-Graham test.

## MEAT.

Of 86 legal samples of minced meat and sausages examined, 45 failed to conform with the relevant standards.

Six in every ten of the minced meat samples contained sulphur dioxide preservative in contravention of the Regulations. Minced meat must be kept a wholesome invalid foodstuff and the interests of public health would be better served if the butchers persevered more with refrigeration than with harmful chemical preservatives.

Most of the sausages examined contained more than the prescribed minimum of 75 per cent. meat content and were of good quality.

In the determination of the meat content of sausages, this laboratory has long used the method of Stubbs and More with satisfactory results. No method is prescribed at present, but it is proposed that the meat content shall be determined by the above method as outlined in the Analyst, volume 77 (1952) under the heading "The Analysis of Meat Products."

## FLOUR.

White flour milled in Queensland was sampled regularly and the quality, as a whole, was the lowest for some years. Low protein figures of 10.2 to 10.5 per cent. were all too common. This deterioration is largely due to the unfavourable climatic conditions under which wheat was grown last season. A better growing season this year should enable Queensland to retain its position as the producer of the best wheat in Australia.

## BREAD.

In a survey of the Brisbane bread supply, the majority of the loaves examined was of fair average quality, and the proportion of poor quality bread was not high. This was a creditable effort on the part of the baker considering the deterioration in the quality of the flour.

Six samples were submitted by the Department of Labour and Industry in connection with the baking of bread outside prescribed hours, and evidence was given in Court on three occasions.

Control work was carried out in connection with the standardisation of bread weight on a dry solids basis and forty-seven sample loaves of bread were submitted by the Department of Weights and Measures for this purpose.

There were frequent complaints concerning poor quality bread of the sandwich loaf type, the faults being poor volume and dense unrisen crumb. The trouble was associated chiefly with the size and design of the tins used in the manufacture of the bread.

## DIABETIC FOODS.

The nature of the so called diabetic foods on the market leaves much to be desired. A survey was made of many lines, including flour, jelly crystals, bread rolls, gluten biscuits, soup, cordials, jams, preserved fruits, and chocolate. Few were of any real benefit to the diabetic and several containing glycerine and glucose were harmful. It is difficult to standardise these foods in a way suitable to the diabetic who is frequently misled as to their value. It would be better for the diabetic to use the normal foodstuffs and to make allowance for the same in his diet. The fact that most specialists in this field of medicine advise against their use speaks for itself.

## UNUSUAL WHISKY SAMPLE.

A sample was submitted by the Underwater Research Group of Queensland. It was obtained in 40 feet of sea water about one half mile off Southport, and thought to be from the wreck of the "Scottish Prince" which sank in this locality on 3rd February, 1887.

The sample was one of many bottles obtained from the sunken wreck and consisted of whisky of normal spirit strength, heavily contaminated with sulphides, apparently of bacterial origin, and containing about 2 per cent. of sea water. Both the cork and the lead seal were in a good state of preservation.



LEAD IN TOOTH PASTE.

The several brands of tooth paste on the market were examined for lead with results as outlined in Table CIII.

TABLE CIII.

Brand.	1.	2.	3.	4.	5.	6.
<i>Metal Tube—</i>						
Lead, per cent. .. .. .	97·9	89·3	95·8	97·0	97·0	90·4
Tin per cent. .. .. .	0·9	8·3	2·5	1·6	2·0	7·9
Antimony per cent. .. .. .	1·2	2·4	1·7	1·4	1·0	1·7
Tin Coating—mms. .. .. .	Nil	0·009	Nil	Nil	Nil	0·01
<i>Tooth Paste—</i>						
Lead (parts per million) .. .. .	60	Nil	15	10	13	5

The use of lead tubes is questionable, in view chiefly of the tendency of some children to chew the metal and swallow the paste.

A uniform coating of tin at least 0·005 mm. thick should be provided as a protection against the uptake of lead by the paste.

Lead tubes are still used the world over as containers for toothpaste, cosmetic materials and other household products and any health hazard associated with the practice is apparently remote.

GLUCOSE SWEETS.

The term, “glucose,” is loosely used in the confectionery trade. A number of samples described as “glucose sweets” was examined. Few contained more than 15 per cent. glucose. The glucose content of a confection, if declared, should be calculated and declared as glucose or medicinal glucose and not loosely as commercial glucose or glucose syrup.

NEW PAINT LEGISLATION.

“*The Health Acts Amendment Act of 1955*” proclaimed on the 14th January, 1956, legislates for the total prohibition of white lead in paint and the limited use of lead chromate.

An increased volume of paint work was the result of this new legislation.

FUNGICIDES IN PAINTS.

An investigation was made into the use of fungicides and bactericides in paints, more especially water paints, with a view to limiting the use of toxic substances like phenol, pentachlorophenol, and phenyl mercuric acetate.

FRUITS AND VEGETABLES.

The position relative to spray residues on fruit and vegetables was satisfactory judged by the few complaint samples received. Forty-three (43) samples in all were examined.

TOBACCO.

Two hundred and seventy-nine samples of tobacco leaf were examined compared with 719 samples last year. Contraband cigarettes and tobacco from the Queen’s Warehouse were examined as to suitability for sale and many brands of cigarettes from the local market were examined for spray residues. The position as regards the use of lead arsenate on tobacco leaf has improved considerably and the growers now concentrate more on Endrin and Dieldrin in

their battle against insect pests. No indication was given of the excessive use of these new toxic organic pesticides.

STERILISATION OF BLANKETS.

A report on the fumigation and sterilisation of blankets was issued to hospital authorities and the suggestion made that the method of sterilisation as performed by Blowers and Wallace (Lancet 18-6-55) was well worth a trial. This method gives a preliminary washing with a non-ionic detergent, followed by treatment with cetyl trimethylamine bromide, and has now been carried out in the Brisbane Hospital laundry with most encouraging results from a sterilisation angle.

Provided the treated blankets prove to be dermatologically innocuous, the method could become standard practice in Queensland hospitals.

COMPOSITION OF TEXTILES.

The first submissions were made under “*The Trade Descriptions (Textile Products) Act of 1954*” and nine samples of socks, singlets, and neckties were examined for wool, cotton, and synthetic fibre content. The declared composition on each article was correct.

MOTHPROOFING OF WOOLLENS.

A report was issued to the State storekeeper concerning the moth-proofing of woollens with Mitin.

Wool pests are a much greater menace in Queensland than in countries of more temperate climate and the depredations of clothes moths in this State warrants serious attention being paid to the moth-proofing of woollen fabrics. The best methods of moth-proofing are not cheap, but for good quality woollens, their use is most certainly justified.

CRYSTAL GROWTH IN CANNED MARINE PRODUCTS.

The presence of natural, hard, sharp, transparent crystals, glass-like in appearance in canned crab and canned lobster is not uncommon and has been the cause of many consumer complaints over recent years. Certain manufacturers overseas now claim that the growth of these objectionable “Struvite” crystals can be prevented by the addition of 0·5 per cent. of sodium hexameta phosphate. Such an addition would appear to have no significance from a health angle and could be the solution of a long standing trouble with some canned marine products.



#### POTABILITY OF WATER FROM HOT WATER SYSTEMS.

Following several enquiries as to the possibility of metallic contamination of water in hot water systems, the water from eight different systems was examined for copper content. The samples were taken in the early morning after storage overnight, and yielded copper at rates varying from 0.05 to 0.46 parts per million, well inside the limit fixed for potable water.

#### DRUGS AND MEDICINES.

The work carried out under this heading followed the usual pattern and 111 samples in all were examined.

Medicines were checked for accuracy in dispensing. Survey samples of various lines were checked against prescribed standards; proprietary lines were examined for restricted drugs and poisons, and criticisms made of the claims advanced for these preparations. Complaint samples from the public were investigated.

No serious faults were found with any of the samples.

#### AERATED DRINKS AND CORDIALS.

Soft drinks and cordials to a total number of 229 samples were examined, including submissions from the country towns of Cairns, Marceba, Redcliffe, Ipswich, Southport, Maryborough, Gympie, and Gayndah, and the position as a whole was satisfactory. A few manufacturers, still fail to declare the presence of artificial colour and preservative in the labels of their products and a few still persist in labelling such products "Pure," in contravention of the Regulations. An increase in the use of ceramic labelling was noted.

#### SPIRITUOUS LIQUORS.

The remarkably low figure of four adulterated liquors is recorded for the year, compared with 23 last year, and 43 the year before.

#### ZINC IN TANK WATER.

Enquiries were made concerning the zinc content of tank water. Galvanised iron and to a lesser extent zinc anneal, have long been tolerated in roofing iron and water storage tanks, in the absence of more suitable material. A coating of non-poisonous paint on the roofing iron is helpful, serving the dual purpose of increasing the life of the galvanised iron or zinc anneal by preventing rusting, and keeping the concentration of zinc in the drinking water at a safe level.

#### TOYS.

The sale of toys containing any lead in any form or compound whatsoever, either on the painted surface or in the toy/substance itself, is prohibited in Queensland. Fifty-eight samples were examined in connection with this legislation.

#### ICE CREAM.

Two manufacturers make the bulk of the ice cream sold in Queensland. Their products are regularly examined and seldom fail to conform with official requirements. Of the samples examined this year, the milk fat content was invariably between 10 and 11 per cent., and food solids were present at the fairly constant rate of one and seven-tenths pounds per gallon. The average "overrun" was 130 per cent.

#### MISCELLANEOUS.

A considerable amount of work was carried out for the Brisbane and South Coast Hospitals Board, including the examination of drugs, ammonia, soap powders, and foodstuffs, and investigations were made into the washing and bleaching of clothes and sterilisation of blankets.

There was a definite increase in the submissions from the Departments of the Army and Repatriation and 51 samples in all were examined, consisting chiefly of tender and contract samples of tea, coffee, bread, cordial, baking powder, phenyle, and toilet paper.

Samples of drugs, native poisons, and canned foods to a total number of 42 were submitted by the Department of Health, New Guinea, for examination and report.

A survey was made of food flavouring essences, and apart from the presence of coumarin in two brands of Imitation Vanilla Essence, the samples conformed with prescribed standards.

Four brands of tea from the local market yielded fluorine at rates varying from 100 to 200 parts per million. The beverage as consumed would contain from 1 to 2 parts per million of fluorine, derived from the tea.

The fatty spread on an article sold as a "buttered roll with extra butter" consisted wholly of margarine.

A shipment of imported canned fish with the tins in a "springer" condition was condemned as unfit for sale. The housewife is in no position to determine whether an apparently blown tin of foodstuff is the result of a slack pack, a full pack, a harmless hydrogen swell or decomposition of the product, and consequently all such tins must be regarded as spoiled and the contents as unfit for human consumption.

Traces of flocculent sediment in a number of bottles of sterile intravenous solution proved to be organic extractive matter from the rubber disc bottle-seals.

A manufacturer wanted permission to use the description "lemon curd" for a preparation of the "Lemon butter" type. Preparations of this kind have long been misdescribed as "Lemon butter" and "Lemon cheese" but through long usage, have become accepted. Any more misnomers for the product will not be tolerated in Queensland.



Of ten different brands of coffee and chicory essence examined, two only contained less than the prescribed minimum proportion of 0·25 per cent. caffeine.

In the search for ambergris, none of 12 specimens submitted for examination was genuine.

Specimens were again submitted in connection with the shattering of a glass tumbler with explosive violence due to internal strain in the glass. The introduction of “unbreakable” glass has increased to some small extent the overall accident hazard in the home.

Samples of various kinds were examined for the Railway Department, the Education Department, the Department of Agriculture and Stock, the State Storekeeper, the Prices Commissioner, and the Comptroller of Prisons.

WATERS SECTION.

Number and sources of water samples examined:—

Department.	Number of Samples.
Health and Home Affairs .. ..	208
Irrigation and Water Supply .. ..	691
Local Government .. ..	329
Harbours and Marine .. ..	439
Miscellaneous Government .. ..	221
Public .. ..	154
Total .. ..	2,042

A record number of samples was reported for the year. This increase in the number of samples submitted necessitated the addition of a third analyst to the section for the greater part of the year. As usual, the greatest number of samples from any one source came from the Irrigation and Water Supply Commission which requires reports on water for stock watering, irrigation purposes, and in some cases, domestic use.

The number of estimations of the saline and suspended solids content of the Brisbane River water at various places, tidal stages and depths, carried out for the Harbours and Marine Department, increased considerably during the year. Exceptionally heavy rainfall for the first six months of 1956, with numerous “freshes” in the river and the resultant movement of silt-forming material, was responsible for this increase. For the same reason, the number of samples submitted during the same period by the Health Department for examination as to their suitability for domestic purposes (including human consumption) decreased.

In connection with the possible future fluoridation of drinking water, a survey of the fluorine content of town water supplies throughout the State was undertaken by the Health Department to obtain the information necessary to enable the addition of fluorine (in the form of sodium salts) to water supplies to be carried out safely, taking into consideration the varying climatic conditions throughout Queensland.

SECTION 2.

TOXICOLOGY, BIOCHEMISTRY, AND INDUSTRIAL HYGIENE.

I. L. B. HENDERSON, B.Sc., Officer-in-Charge.

The total number of specimens submitted for examination by this section was 3,207.

POLICE DEPARTMENT.

Specimens submitted by this Department during the year numbered 378, of which 268 were in connection with 89 post-mortem examinations.

Poisons found included barbiturate (30), arsenic (3), strychnine (2), morphine (1), nicotine (1), atcbrin (1), aspirin (1), gammexane (1), pentachlor-phenol (1), chloral (1), phosphorus (1), bromide (1), sodium carbonate (1), carbon monoxide (1).

The remaining 43 post-mortem examinations did not disclose any poison. Many of them were routine examinations to exclude the possibility of poison where the Government Pathologist’s preliminary examination did not indicate the cause of death.

Suspected animal poisonings, involving 18 examinations, were also investigated.

Other specimens examined for this Department included bloods, urines, drugs, medicines, anaesthetics, foodstuffs, clothing, plant material, and dog baits.

BIOCHEMISTRY.

Biochemical specimens are examined for the Laboratory of Micro-Biology and Pathology, the Government Medical Officer, the Queensland Institute of Medical Research, the Director of Industrial Medicine, the Brisbane General Hospital, other hospitals and medical practitioners.

The nature, significance and number of such specimens are shown in the following table:—

TABLE CIV.

Nature of Specimen and Significance.	Number of Specimens.
Blood and Urine, for alcohol or other drugs .. ..	725
Urine for lead .. ..	1,241
Urine for mercury .. ..	9
Urine for 17 keto-steroids .. ..	21
Bone for lead .. ..	387
Hair, nail and urine for arsenic .. ..	72
Miscellaneous .. ..	59
Total .. ..	2,514

The miscellaneous specimens included blood, urine, stomach washings, anaesthetic ether, drugs, &c.

The analyses of human bone for lead content represent the final series for the Queensland Institute of Medical Research in the investigation as to the cause of the abnormal incidence of chronic nephritis in Queensland.



The majority of the increased number of urinary lead estimations performed this year was part of a large scale survey of workers at Mount Isa Mines. Specimens submitted during the latter portion of the year show a lower average lead excretion from mine workers than was found earlier in the year.

In the previous year, 25 specimens of urine chiefly from young children were examined for mercury content, the majority being positive. This year, following the prohibition of calomel in teething powders, nine specimens were received of which only one was positive.

INDUSTRIAL HYGIENE.

Excluding biochemical specimens, the number of samples examined totalled 315.

The section undertook 37 investigations, chiefly for the Director of Industrial Medicine, covering a wide range of subjects. These can be summarised as follows:—

Dust .. .. .	20
Carbon monoxide and other noxious gases	8
Air conditioning .. .. .	3
Miscellaneous .. .. .	6
	—
	37
	—

SECTION 3.

MINES, MINERALOGY, METALLURGY,  
AND EXPLOSIVES.

V. R. CUNDITH, B.Sc., A.R.A.C.I., A.M. Aust.  
I.M.M., Officer-in-Charge.

The table shows the sources of work done by this section and the number of samples from each:—

Department.	Number of Samples.
Geological Survey and Mines Department	624
Coal Board .. .. .	249
Portmaster (Explosives) .. .. .	2,074
Public (Chiefly Oil Tank Examination)	102
Other Departments* .. .. .	647
Commonwealth Departments .. .. .	58
	—
Total .. .. .	3,754
	—

\* Includes 309 tiles.

GEOLOGICAL SURVEY AND MINES DEPARTMENT.

The greater proportion of the work was in assaying ores of gold, silver, lead, copper, manganese, tin, and other minerals.

Some samples of ilmenite were examined for chromic oxide contents, and those from northern beach sands showed proportions less than 0.03 per cent., which would make them suitable for the manufacture of titanium oxide pigment.

A drilling survey in the Mount Wright (Ravenswood) area contributed the greater proportion of the 390 samples examined for gold and silver. The values ranged from 18 dwts. to a trace of gold per ton.

Most of the clays submitted were subjected to fire tests. The majority were found to be suitable for brick and tile manufacture. Some contained gypsum or soluble salts, which adversely affect the brick or tile during drying and firing operations and subsequently mar the appearance of bricks by formation of efflorescence on wetting and drying out.

A number of samples (174) have been received from the Department of Mining and Metallurgy, University of Queensland for Uranium and Thorium assay. These elements are determined by time-consuming chemical methods which are necessary for ores from different fields. However, the through put of samples will be greatly increased with the delayed receipt of radiometric equipment from the United Kingdom. A Jarrell Ash Fluorimeter and Geiger Counter (assembled at the Laboratory) have already been received for supplementary work.

A sample of coarse salt from Lake Buchanan showed:—

	Per cent.
Water Insolubles .. .. .	0.04
Calcium Sulphate (CaSO <sub>4</sub> ) .. .. .	0.11
Calcium Chloride (CaCl <sub>2</sub> ) .. .. .	0.52
Magnesium Chloride (MgCl <sub>2</sub> ) .. .. .	0.82
Potassium Chloride (KCl) .. .. .	0.29
Sodium Chloride (NaCl) .. .. .	98.22
	—
	100.00
	—

Iodide, bromide and phosphate were not detected.

A sample of mineral forwarded for identification yielded:—

	Per cent.
Loss on ignition .. .. .	2.0
Silica (SiO <sub>2</sub> ) .. .. .	52.3
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .. .. .	23.6
Ferrous Oxide (FeO) .. .. .	2.1
Lime (CaO) .. .. .	11.7
Magnesia (MgO) .. .. .	0.7
Sodium Oxide (Na <sub>2</sub> O) .. .. .	4.7
Potassium Oxide (K <sub>2</sub> O) .. .. .	0.9
Chloride (Cl) .. .. .	1.3
Sulphur Trioxide (SO <sub>3</sub> ) .. .. .	Nil
	—
	99.3
	—

The composition corresponds to that for Wernerite of the Seapolite Group.

In addition, samples of mine air, bore gas, samples taken during drilling for oil operations, and scrubber fluid from diesel engines used underground were received for examination.

A gas from a bore at Eagle Farm contained 81.5 per cent. Methane.

In connection with coals, tests carried out included calorific values, proximate analyses, sulphur determinations, fusion points, analyses of ash, coking tests, ultimate analyses, washability tests, &c.

The activities of the Coal Board and Mines Department have led to a great increase of work required for individual samples; this particularly applies to those for washability tests.



Additional drilling to prove the extent and quality of the coal reserves at Collinsville and Scottville is being carried out, and the Section will be required to more than double the output of this class of work in the next financial year. The event has been anticipated by further appointments (two), and the provision of another calorimeter.

Typical coke analyses are as follows:—

Proximate Analysis.	(1).	(2).
Moisture (per cent.) .. ..	4.2	2.6
Volatile matter (per cent.) ..	4.0	4.4
Fixed Carbon (per cent.) ..	70.7	77.5
Ash (per cent.) .. ..	21.1	15.5
	100.0	100.0
Joules per gram .. ..	24,520	27,080
B. Th. U. per lb. .. ..	10,550	11,650
Sulphur (S), per cent. .. ..	0.38	0.37
Phosphorus (P), per cent. ..	0.012	0.03
Specific Gravity .. ..	1.787	1.810
Ash Fusion :—Softening Point, °C.	1,480	1,120
Fusion Point, °C.	1,520	1,170

In some instances, the ash content of coke produced at Brisbane from local coal supplies was from 30–33 per cent. with moisture content 1–4 per cent., and volatile matter 1.1–1.8 per cent.

A number of washability tests have been undertaken and these provide a means of determining the amenability of run of mine coal to beneficiation, the aim being to supply a coal more consistent with industrial requirements. More than offsetting the higher cost of washed coal is the greater consistency of quality and heat units obtained, less handling of ash and better adherence to boiler design requirements.

During the year, two (2) visits were made to Collinsville and examinations were made of air conditions at the State Coal Mine and the Bowen Consolidated Coal Mine at Scottville.

OTHER DEPARTMENTS.

The consultative and analytical services supplied by this section have been well utilised. Cement and concrete products, corrosion problems, explosimeters, pressure cookers, metals and alloys, aviation oxygen, galvanised iron, soils, filter sands, bitumen felt, engine deposits, producer gas, zeolite, hospital furniture, crank case oil, tiles, whale meal, plaster, and paint were among submissions and this indicates the diversity of work.

Of interest is the testing of kitchen pressure cookers as sterilisers for use in the Salk vaccine anti-poliomyelitis campaign.

Tests were made with silicone water proofing compounds for masonry to determine effect on breathing properties of the stone.

In regard to aviation oxygen, the specification calls for a product containing—

- Not less than 99.0 per cent. oxygen.
- Not greater than 0.002 per cent. carbon monoxide.
- Not greater than 0.020 gram moisture per cubic metre.

The supply of oxygen to this quality ensures the absence of iceed up feed tubes to pilots and navigators flying at high altitudes where temperatures average about minus 60 deg. F.

Some polythene tubing was found satisfactory for use in domestic water systems.

A sample of compressed air from the Underwater Research Group was found to be tainted with an oily odour, the inhalation of which over a long period would be likely to induce nausea and vomiting. The use of a non oil lubricated pump in filling the cylinders is indicated.

Examination of a painted calcium sulphate plaster coated cement floated brick wall showed the absence of saponification. The plaster surface underneath the blistered paint film was “powdery.” The paint film defect could be due to—

- (1) Painting the wall before plaster was dry, thus inducing sweating;
- (2) The use of a primer which contained too much oil on the partially set plaster;
- (3) Too rapid drying of the anhydrous type of plaster used. On hot days or when subjected to dry westerly winds, the plaster may not fully hydrate. Then, if water diffuses into the plaster, expansion takes place unevenly—the plaster skinning coat blisters, softens and becomes powdery with flaking of paint film.

A survey of pipeline and pump station sites for the Redcliffe Sewerage Scheme is being made by the Department of Local Government and a number of soils were examined to determine inherent corrosion hazards to cement, cast iron and fibro-cement piping.

A sample of basic zinc sulphate was received from a galvanised iron roof (underside) of a hospital building erected in 1911. Apparently the roof was in close proximity to a boiler chimney from which coal fuel smoke had entered the moist laps with subsequent formation of corrosion product.

In answer to a query bearing on the suitability of galvanised piping for hot water systems, it may be of general interest to note that copper piping and cylinders are invariably used in hot water systems. At temperatures above 140 deg. F., zinc may reverse its potential relative to iron and accelerate pitting. For this reason, galvanising should not be used for pipes carrying hot water or in steam piping. The corrosion induced is due to electrolytic action.

Some specimen bricks compounded of clay and ilmenite were found to be unsuitable as firebricks, the fusion point being too low. Some zircon clay compositions however were of fair quality but would have been improved by the use of a better clay and greater variance in the zircon grain size.

The holds of some ships were examined for the presence of inflammable or toxic vapours and gases, that may be associated with broken cargo containers, e.g., Formalin, Cyanide, Ferrosilicon.

*Inflammable Liquids and Gases.*—The Department provides a service for the public and the greater proportion of this work is represented by examination of petrol storage tanks, road wagons, fuel oil tanks and containers to determine the presence of toxic or dangerous proportions of inflammable vapour prior to entry for inspection, cleaning, and repairs.

SECTION 4.

FEDERAL DEPARTMENTS, STATE STORES, MAIN ROADS, PUBLIC WORKS, &c.

J. ADAMSON, A.R.A.C.I., Senior Chemist,  
Officer-in-Charge.

The total number of samples reported this year was somewhat higher than the previous year, the increase being due to the greater number of samples received from all departments excepting the State Stores Board and the Main Roads Department.

The following table gives in detail the samples examined by this section:—

TABLE CVI.				
Commonwealth Customs .. ..	..	..	..	3,071
Commonwealth Department of Primary Industry .. ..	..	..	..	1,471
Public Works Department .. ..	..	..	..	906
Queensland Housing Commission ..	..	..	..	708
State Stores Board .. ..	..	..	..	691
Explosives (Fireworks) .. ..	..	..	..	434
Main Roads Department .. ..	..	..	..	152
Other Government Departments ..	..	..	..	84
Public .. ..	..	..	..	10
				<hr/> 7,527 <hr/>

The Federal departments, Customs and Excise and Department of Primary Industries, again provided the bulk of the work in this section and a very wide range of work is covered for these two departments.

Both the Public Works Department and the Queensland Housing Commission submitted a greatly increased number of paints for analysis, and generally they were of satisfactory compositions.

A paint containing lead compounds in excess of the permitted limit was a “rara avis” and very few of the paints examined failed to conform with the departmental specifications. This satisfactory state of affairs is due to the co-operation between this department and the inspectors of the Public Works Department.

The State Stores Board continued to avail itself of the services of this laboratory and undoubtedly this has led to a better supervision of supplies to all Government undertakings. The Main Roads Department submitted a number of bitumen and bitumen emulsion samples for examination. An increase in this work is to be expected with the checking of samples from the newly established Queensland Oil Refinery.

Fireworks were again examined by this section, and with one exception were of satisfactory composition.



## DIVISION OF NURSING.

Adviser in Nursing: D. BARDSLEY, A.T.N.A., F.C.N.A.

### INTRODUCTION.

One of the functions of the Division that has developed almost spontaneously is that of a Nursing Information Bureau. The appellation "Adviser in Nursing" attracts a large number of people to call or to telephone for information on any and every subject with which a nurse could possibly be acquainted as well as many entirely outside the nursing field.

Every attempt is made to supply the information asked for or to refer the enquirer to an organisation where it is likely to be obtained. One very satisfactory angle of this information service is the increasing number of girls or their parents who wish to obtain advice on nursing as a career. The suggestion included in the pamphlet "Be A Nurse" issued by the Department during the year that the Adviser in Nursing be contacted in this connection has no doubt been responsible for a proportion of the numbers seeking advice on this subject.

It is found that parents in particular prefer to seek preliminary advice from someone not attached to a hospital proper as they wish to be reassured on a number of points before allowing their daughters to commit themselves to a definite application at a particular hospital.

With the object of enlarging the usefulness of these career interviews an approach was made to the Officer in Charge of the Research and Guidance Branch of the Department of Public Instruction for information on methods used in assessing suitability for nursing and allied careers. This has proved both interesting and profitable and a good deal of information has been exchanged between officers of the Branch and this Division.

Trained nurses have also called in increasing numbers to enquire about positions or ask for advice regarding their professional careers.

In order to meet the demands made upon it a large amount of reference material must be held at the Division. Up-to-date information on salaries and working conditions both in Queensland and other States is required, including training and working conditions in individual hospitals. Criticisms must be answered as well as information supplied and for this a wide knowledge of nursing organisation is necessary—including that of countries outside Australia. The interstate and international contacts established by the Adviser have proved invaluable in this regard.

A small research programme in connection with the wastage of student nurses which was commenced in the last four months of the year has already yielded some interesting results and opened up a useful field of work which should assist in reducing the number of nurses leaving the profession.

An increasing number of matrons of hospitals have continued to seek advice and help in their difficulties. It is pleasing to note that advisory interviews are now sought by matrons of special as well as general hospitals—thus further enlarging the usefulness of the Division.

### RESEARCH INTO WASTAGE OF STUDENT NURSES.

Following requests for assistance from several girls who had left hospitals before completing their training matrons of training hospitals were asked to supply to the Division of Nursing the names and addresses and other particulars of girls who had discontinued their training before completion. A circular letter was sent to matrons of all nurse training schools explaining why the information was asked for and requesting their co-operation and to date such information has been supplied regularly by a number of hospitals—the first notification dating from 24th February, so that the period covered is little more than four months.

The figures set out in the Table CVII must constitute the largest proportion of the total wastage in the State for the four months under review, although it must be assumed that some of the matrons of smaller hospitals have not co-operated.

The procedure followed for the first part of the period was to write a carefully worded personal letter to each nurse whose record of service as set out by the matron was reasonably good and request her co-operation in helping to discover the reasons why a career which was obviously attractive to her in the first instance should have proved a disappointment. An offer of advice if required was added.

In a few cases where approaching marriage was given as a reason and the major portion of the training had been completed the question was asked whether had the training been shorter the nurse would have remained to complete it.

Although the response to these letters by either letter, telephone or personal call was not large the girls who did respond were very co-operative. From the beginning it was obvious that the reasons for resignation given to the hospitals were not always the correct ones and some of the girls were quite frank in explaining personality and organisational difficulties which had made them feel they could not carry on. In some cases the girls wished to continue nursing but had been unaware that they could transfer to another hospital. Several of these have been satisfactorily placed and their new matrons have given good reports of them.

One older girl who had had considerable office experience before deciding on a career of social service had changed her hospital twice when she sought help. With this in mind and because of an unfortunate home situation she was advised



to have some psychological tests at the Psychiatry Clinic to determine her fitness for nursing before she was recommended to another matron. The result of these and an interview with the Director of Mental Hygiene gave her confidence that she could complete her course and she has since been accepted by one of the larger country hospitals.

One matron who has become personally interested in the possibilities of this work is very helpful in suggesting alternative nursing employment to any of her own student nurses who feel they can not cope with the work at her hospital but are still interested in nursing and whose work is good.

Matrons of the larger hospitals find that homesickness is often a cause of young country nurses failing to settle down. Transfer to a smaller hospital nearer home has been suggested in these cases.

Where marriage is given as a reason for leaving it is found that this is not necessarily imminent. Several girls have explained that nursing does not provide in actual cash enough to save up for marriage and where they have their own homes they can save more by taking higher salaried positions in commerce, &c. Several girls stated that had the training been three years instead of four they would have remained to complete it especially where they have already completed two years or more.

The large proportion of nurses for whom the reason "unsuited to nursing" has been given either by the nurses themselves or their matrons, would seem to point to a poor selection.

When a considerable number of student nurses are required it is admittedly a temptation to enrol most of the girls who can meet the minimum requirements, but if too large a proportion of those selected leave the hospital in their first year of training the wisdom of this procedure may be doubted.

For the ensuing twelve months matrons have been asked to add the age and educational standard of the nurses resigning to see whether these have any bearing on the wastage.

Administrative work for the Salk immunisation campaign which has now been included in the duties of the Adviser has necessarily caused some curtailment of this research programme, but it is hoped that it may be possible to continue it later.

#### MEETINGS ATTENDED (NATIONAL AND INTERNATIONAL).

The Adviser in Nursing attended the Biennial Meeting of the Board of Directors of the International Council of Nurses in Istanbul, Turkey, from 29th August to 5th September, 1955.

Twenty-six countries were represented and the meetings were opened by the Minister of Health for Turkey. Valuable discussions took place on standards of nursing service, nursing education and the economic welfare of nurses

as well as points concerning nurses studying in countries other than their own and many other matters of interest. The Adviser in Nursing represents Public Health Nursing on the Nursing Service Committee of I.C.N.

The Adviser was appointed to represent the Royal Australian Nursing Federation on the newly constituted committee on nursing of the National Health and Medical Research Council.

#### ANNUAL CONFERENCE OF THE MATRONS' ASSOCIATION.

This was held in Townsville from 14th to 18th May inclusive, and consisted of meetings and a study period. The Adviser in Nursing arranged the programme, the subject chosen being "Orthopaedic Nursing."

The programme included lectures on the "History and use of the Thomas Splint," by T. U. Ley, M.B., B.S., M.Ch.Orth. (Liverpool), F.R.A.C.S.; "Poliomyelitis," by A. Ivanov, M.B., B.S., D.T.M. & H. and Mr. Ley; "Plaster of Paris Technique and Fitting of Surgical Appliances," by Gavin Douglas, M.B., B.S., F.R.A.C.S., and a symposium on the "Paraplegic Patient" in which the complete team used in the care of the long stay patient, surgeons, psychiatrist, hospital sister, physiotherapist, medical social worker and occupational therapist took part.

In addition the usual "Can I Help You" session was conducted by the Adviser and in order to help matrons in the selection of student nurses a dramatised interview with a girl wishing to train as a nurse was presented. Matrons were asked to assess the girl's suitability by giving marks under specially selected headings and the results were extremely varied. In order to add to the value of this exercise the Adviser had prepared some notes on "Interviewing" from books and other material lent by the Research and Guidance Branch and these were distributed. Numbers of matrons as usual took the opportunity of discussing nursing in general as well as their particular problems with the Adviser. The papers on the use of a hospital Reference Library, "The Patient as a Person" and "The Hospital—What it is and what it is designed to do," continue to be in steady demand.

#### STUDY PROGRAMMES FOR INTERSTATE AND OVERSEAS NURSES.

The Adviser in Nursing arranged a post-graduate study programme for two trained nurses from Singapore who were in Australia under the Colombo Plan. The study, which covered the period 26th September to 1st November, 1955, was on public health nursing service with special reference to children. A report on the study was furnished for the Commonwealth. Another study period of ten days (11th to 21st June, 1956) was arranged for the Principal Matron, Department of Health, Western Australia, who had been awarded a bursary for a study on nursing education and service in all States of Australia and overseas.

A study day was also arranged for a woman doctor from the Philippines.





## DIVISION OF SOCIAL SERVICES.

Welfare Officer: Mrs. V. WILLS.

During the period covered by this report, welfare work in its various phases has engaged the constant attention of the Welfare Officer and there has been an increase in the number of requests for help.

Although most of the temporary housing areas have closed down, six remain, housing a few hundred families, and the Welfare Officer has been actively engaged in visiting them and in carrying out routine hygiene inspections.

Arrangements have been made for the admission to Eventide of aged people found with no one to care for them; appointments were made for persons needing psychiatric, medical and dental treatment, and others were assisted in making application for social pensions.

Toilet rooms provided for patrons of metropolitan theatres, picture shows, emporiums and in public parks have been regularly inspected.

Complaints regarding cruelty to children and neglected children have again been investigated, and the Division has also assisted in cases with which the Royal Society for the Prevention of Cruelty has been unable to deal. Broken homes and unemployment have been responsible for many of the calls made.

This officer's activities have been well summed up in previous reports though from time to time further instances of a need for such services are brought sharply to mind and the Queensland Housing Commission and the State Children's Department have greatly appreciated her work.

### LEGISLATION.

By Proclamation in the *Government Gazette* of 26th November, 1955, "The Food and Drug Regulations, 1939" were amended to provide that the use of coumarin as a flavouring substance shall not be permitted.

An Act to amend "*The Health Acts, 1937 to 1949*," in certain particulars was assented to on 30th November, 1955, but was not proclaimed as in force until 14th January, 1956. It repealed section 127 of the Principal Act in connection with lead in paint and provided in lieu that basic carbonate white lead should not be manufactured or sold or used and prohibited the use of paint containing lead on a house or furniture, with the exception that paint containing not more than 5 per cent. lead chromate could be applied to parts of the house inaccessible to children, under 14 years of age.

### ACKNOWLEDGMENTS.

I desire to convey my thanks to all the members of the staff for their unfailing and conscientious attention to duty. I would particularly mention my Deputy (Dr. D. W. Johnson). Thanks are again given to Government Departments, particularly the Government Statistician who, as usual, has been of great assistance in preparing the Vital Statistics section in this report and has supplied other statistical details sought from time to time throughout the year, and to the officers of the Department of Public Works for their ready co-operation in complying with requests made to them.

Members of the British Medical Association have been most co-operative, particularly in assisting in the organisation of the Salk vaccination campaign, and the anticipated success of the campaign will in a large measure be due to this. Our relations with the President and Members of the Council of the British Medical Association have been most happy, and they have been only too pleased to assist in anything asked of them.

I also would thank the members of the Advisory Committee on Hospital Drugs and Surgical Appliances, and the Infantile Mortality Committee, for their co-operation, and would particularly thank Dr. A. D. D. Pye, General Superintendent of the Brisbane Hospital, and Dr. O. S. Hirschfeld, Chancellor of the University of Queensland.



## APPENDIX A.

## ANNUAL REPORT OF THE NATIONAL MOSQUITO CONTROL COMMITTEE FOR 1955-56.

The work of the Committee during the year has concerned collection of further knowledge of the identity, distribution, habits and life histories of Queensland mosquitoes through field work, laboratory studies and the identification of specimens submitted to it. Publication of results of this work has continued. Five species previously unrecorded from Australia were collected. The undescribed larvae of four species, females of two and the male of one species were collected for the first time. Assistance has been rendered to workers on other aspects of the mosquito problem by identification of specimens from other States, New Guinea, and Pacific Islands. This furthers the Committee's work, since knowledge of mosquitoes from these areas is essential for a full understanding of Queensland species, many of which are identical or closely related. The work has also been advanced by discussion and exchange of material with other mosquito systematists.

## 1. FIELD WORK.

The following list summarises the field work. Reports follow on the longer trips and more important finds.

Clontarf, 16-7-55; Holland Park, 22-7-55; Toorbul Point, 20-21-8-55, 17-20-1-56; Beerwah, 17-9-55, 1-11-55; Moreton Island, 1-2-10-55; Dunwich, 29-10-55; Caloundra, 1-11-55, 26-1-56; Buderim, 1-11-55, 3-4-56; Burpengary, 17-1-56; 14-4-56; Bribie Island, 18-1-56; Tara, Feb., 1956; Noosa, 14-19-3-56; Mooloolaba, 1-3-4-56; Camp Mountain, 30-1-56, 15-4-56, 29-4-56; Lockhart River Mission, 5-21-6-56; Iron Range, 21-22-6-56; Cairns district 23-25-6-56.

*Holland Park.*—*Anopheles annulipes* was breeding in large numbers in muddy depressions resulting from uneven filling of a suburban street after sewerage excavations.

*Toorbul Point.*—Collections of adults biting man and horses were made. In August when a swamp was full, *Anopheles atratipes* was biting in large numbers; in January when the swamp was dry, this species was not taken and *Aedes vigilax* was by far the commonest biting mosquito.

*Caloundra and Buderim.*—The hitherto unknown larva of *Aedes burpengaryensis* and male of *Aedes quinquelineatus* were obtained from November collections, also *Culex whitmorei* not previously known to occur south of Townsville. January collection included larvae and correlated adults of an undescribed *Aedes*, of which inadequate material was hitherto available for description.

*Burpengary* was visited in order to collect from the type locality of several species first found there by Dr. Bancroft.

*Tara.*—This district was visited a fortnight after flood rains and about 6 in. rain fell in one week during the visit. All melonholes were full, so that some paddocks were estimated to be 75 per cent. under water, swamps had extended into the surrounding grassland and earth drains contained running water for some days after rain ceased. Species which bred through quickly in newly filled pools and later were a considerable nuisance attacking man and animals, comprised *Aedes vittiger* and *Aedes theobaldi* with smaller numbers of *Aedes alternans* and *Aedes* sp. nr. *sagar*. Following these were great numbers of *Culex annulirostris* which bred in pools remaining for a week or more. A few *Anopheles annulipes* larvae were present but no adults were collected. One female of *Aedes vigilax*, usually considered a coastal species, was taken biting. *Culex fatigans* was a domestic pest.

*Noosa.*—Thirty species had previously been collected in this district. New records obtained on this visit were *Anopheles atratipes*, *Megarthinus speciosus*, and *Aedes spinosipes*.

*Camp Mountain.*—A number of water-holding bamboo segments have been hung in various sites in the bush and are examined at intervals to see what species are breeding in them. It is hoped that life histories of certain rare species may be obtained in this way.

*Lockhart River Mission and Iron Range.*—As knowledge of mosquitoes of the Lloyd Bay district of Cape York Peninsula was scanty, the opportunity was taken for Dr. E. N. Marks to accompany Dr. M. J. Mackerras of Queensland Institute of Medical Research on a visit to Lockhart River Mission to investigate a fever troubling the inhabitants. A total of 50 species were collected, representing the following genera: *Bironella* (2), *Anopheles* (4), *Megarthinus* (1), *Tripteroides* (5), *Uranotaenia* (5), *Taeniorhynchus* (1), *Aedes* (21), *Culex* (11). One species of *Bironella* and four species of *Aedes* are New Guinea species not previously recorded from Australia. Undescribed stages obtained comprised the larvae of three species of *Aedes* and females of two of these. The following species are known to be of medical importance—

*Anopheles farauti*, an efficient vector of malaria, is widespread in this area; it was the only common biting Anopheline both in the bush and on verandahs of mission houses, though numbers were not large. Larvae were found in a wide variety of breeding places: rain-filled



muddy wheel-ruts, grassy pools, shaded gullies, a teatree swamp and a large disused concrete well in the mission village. At the time of the visit, breeding places close to the mission were limited, except for about a week after heavy rain fell, but during the wet season they are likely to be more extensive.

*Anopheles annulipes*, *Anopheles bancrofti* and *Anopheles meraukensensis* are potential vectors of malaria though of minor importance where *A. farauti* also occurs. *A. annulipes* and *A. bancrofti* were breeding in muddy pools in a gully and also in the concrete well. *A. meraukensensis* was taken biting near a teatree swamp.

*Culex fatigans*, the vector of filariasis, and *Aedes notoscriptus* were breeding together in considerable numbers in the numerous 44 gallon drums used for water storage round the village. Both were occasionally taken biting indoors, while *A. notoscriptus* adults bit freely at the edge of a banana plantation. Conditions were ideal for development of a large population of *Aedes aegypti* but this species was conspicuous by its absence. When the water reticulation scheme, now under construction, is functioning many of the *C. fatigans* breeding places may be eliminated. *Aedes kochi*, also capable of transmitting filariasis, was breeding in pandanus leaf axils, but few adults were taken.

The natives spoke of a "white mosquito" which bites severely along the lower reaches of Cutcha Creek, about three miles south of the mission. Investigation showed that the species referred to was *Culex sitiens* which bit severely in the mangrove swamps and which appears light grey in flight. It was also the commonest biting species in the village. Small numbers of *Aedes vigilax* and *Culex annulirostris* were taken.

During this field work considerable assistance was received from Dr. M. J. Mackerras, members of the mission staff and native school children.

## 2. PUBLICATIONS.

- Marks, E. N., 1955. Mosquitoes of the Tewantin district. Qd. Nat. 15 (3): 43-45.
- Marks, E. N., 1955. Studies of Queensland Mosquitoes. Part V.—Some species of *Aedes* (subgenus *Finlaya*). Pap. Dep. Ent. Univ. Qd. 1 (2): 11-29.
- Mattingly, P. F. and Marks, E. N., 1955. Some Australasian mosquitoes (Diptera, Culicidae) of the subgenera *Pseudoskusea* and *Neoculex*. Proc. Linn. Soc. N.S.W. 80 (2): 163-176.
- Marks, E. N. (in press). A new species of *Anopheles* from Queensland and notes on related species (Diptera: Culicidae). Proc. Roy. Soc. Qd. 57 (6): 41-52.

## 3. IDENTIFICATIONS.

The following people sent specimens from the localities indicated, thereby providing useful additions to our distribution records, and to our collection:

### Queensland.

Mr. G. Brooks (Brisbane, Noosa, Maryborough, Bundaberg); Mr. B. Grant (Tambo); Mrs. A. B. Genge (Kowguran); Miss M. Hawken (Magnetic Island, Clayfield, Murphy's Creek); Dr. D. Jones (Laidley); Dr. I. M. Mackerras (Cairns district); Messrs. F. A. Perkins and T. E. Woodward (Binna Burra); Toowoomba Naturalists Club (Lockyer Creek, Chinchilla, Cooyar, Crow's Nest); Mr. J. L. Wassell (Port Stewart, Coen district, Weipa Mission); Mr. P. R. Wilkinson (Forsyth); Dr. G. L. Wilson (Kenmore); Mr. I. C. Yeo (Warwick, Lamington National Park).

Living adult mosquitoes, to be tested as vectors of ephemeral fever, were identified for Dr. E. J. Reye.

### Other States.

*New South Wales*.—Mr. A. K. O'Gower, Miss K. A. Walker.

*Tasmania*.—Miss E. G. Connah, Mr. F. Ellis.

*West Australia*.—Dr. R. Lawrie, Mr. E. J. Britten.

### Elsewhere.

Miss L. E. Cheesman (Aneityum, New Hebrides); Mr. J. H. Barrett, Mr. S. H. Christian, Mr. A. B. Cribb (New Guinea); Dr. J. Rageau (New Caledonia, Loyalty Island, Ile des Pins); Dr. T. E. Woodward (Western Samoa). New undescribed species were included in Mr. Christian's, Dr. Rageau's and Dr. Woodward's collections.

C.S.I.R.O. Wild Life Survey Section officers submitted approximately 500 specimens from New South Wales, South Australia, and Western Australia, identifications of which were checked. This material has enabled a review of Australian species of *Ochlerotatus* to be undertaken. Some of it is being retained for description with related Queensland species, and some will be studied by others working on southern mosquitoes.

### Mosquito Infestation in Brisbane, Autumn 1956.

In normal seasons, *Aedes vigilax* is the principal pest mosquito in coastal districts in the late summer and autumn.

Abnormally heavy rains this year resulted in a great extension of the area of freshwater breeding places, with a consequent increase in numbers of certain mosquitoes. At the same time numbers of *A. vigilax*, a brackish pool-breeder, were much below normal. Probably many of its usual breeding sites were flushed out and others joined to larger bodies of water, allowing larvivorous fish to reach them, while heavy rain would prevent the flight of adults inland from their breeding grounds. *Culex annulirostris*, on the other hand, occurred in great numbers and was a considerable pest both in Brisbane and in many country areas. Collections by Mr. Perkins at Clayfield showed that of many hundreds of mosquitoes taken at night on a verandah ceiling, in early April, 80-90 per cent. were *C. annulirostris*. The same proportion were still present at the beginning of May, though total numbers were much less. Numbers



of *Taeniorhynchus xanthogaster* were also above normal at this season. Only 4 specimens of *A. vigilax* were taken in these collections.

*Culex annulirostris* breeds in a wide variety of ground pools and soon colonises lowlying grassy areas when a few inches of water lie there for some weeks—such areas were probably the principal source of this autumn infestation.

#### 4. PUBLIC HEALTH.

Collections have been received and identified from:—

Rockhampton City Council (3);  
Ayr Shire Council;  
Pittsworth Shire Council (3);  
Maroochy Shire Council;  
Yandina;  
Esk Shire Council (2);  
Mulgrave Shire Council;  
Thursday Island;  
Emerald Shire Council (2);  
Banana Shire Council (3);  
Pine Shire Council (2);  
Maryborough City Council (5);  
Mundubbera;  
Gayndah;  
Chinchilla Shire Council;  
Clifton Shire Council;  
Biggenden Shire Council;  
Isis Shire Council,  
Millmerran Shire Council;  
Noosa Shire Council;  
Toowoomba City Council;  
Peak Downs Shire Council (2);  
Taroom Shire Council;  
Wondai Shire Council;  
Murgon Water Authority;  
Brisbane City Council (2);  
Hygiene Officer, Northern Command (2).

*Aedes aegypti* survey.—Many of the above collections were received as the result of a special request for information on the present distribution of *Aedes aegypti* in south Queensland. This species was identified from the following towns:—

Rockhampton, Emerald, Capella, Biloela, Theodore, Monto, Mundubbera, Biggenden, Childers, Chinchilla.

Nineteen other species were included in the collections.

A map showing the recorded distribution of *Aedes aegypti* in Australia has been published by A. K. O'Gower (Health 6 (2), June, 1956); most of the Queensland localities shown were supplied by the Committee from its records.

#### 5. MISCELLANEOUS ACTIVITIES.

##### *Gifts and Loans.*

Paratype specimens have been received for the collection from P. F. Mattingly and N. V. Dobrotworsky. Other valuable identified material has been received from the British Museum, U.S. National Museum, J. N. Belkin, and N. V. Dobrotworsky. The School of Public Health & Tropical Medicine, Sydney, has loaned specimens for study.

Specimens have been loaned or presented to N. V. Dobrotworsky, J. N. Belkin, P. F. Mattingly, and G. W. Douglas to assist their research, and other specimens in our collection checked for them.

Mr. E. J. Britten, Western Australian Department of Health, and Mr. H. Standfast, N.G. Malaria Control officer, visited the laboratory for discussion on identification of species and techniques.

Collections of mosquitoes by Medicine IV. students were examined.

